PROFESSIONAL COMPETENCIES NEEDED BY AGRICULTURAL EDUCATION TEACHERS AS PERCEIVED BY AGRICULTURAL TEACHER EDUCATORS

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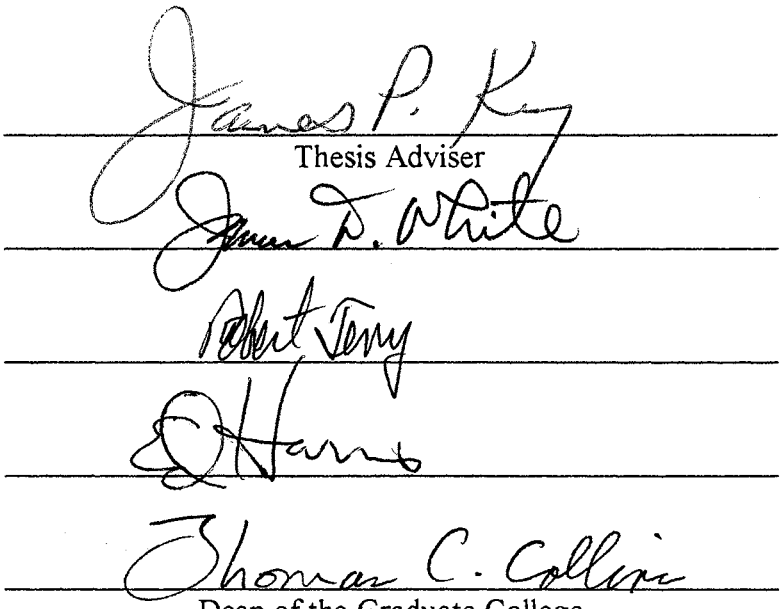

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CHAPTER I

INTRODUCTION

The kinds and degrees of professional competencies needed by agricultural education teachers have continued to increase tremendously over the last number of years. This is largely due to the increased complexity of our ever changing society, mechanization and continued advancements in technology. Furthermore, an agricultural education program encompasses increasingly more varied and larger groups of persons having need of and/or wanting instruction in this area (Jones, 1975). This was dramatically illustrated by the fact that 417,467 FFA members (National FFA Organization, 1994) sought leadership development by participating in various competitive events and programs of recognition associated primarily with secondary agricultural education programs during the 1994-1995 school year.

It becomes obvious then that the 10,418 agricultural education teachers employed in 1994 (Agricultural Teachers Directory, 1994) were charged with the great responsibilities of motivating for and providing occupational education in agriculture to a large number of students at the secondary level. Equipping these agricultural education teachers with the professional competencies required to fulfill the aforementioned responsibilities was a tremendous challenge.

The once traditional production focus of many "vocational" agricultural education programs has gradually given way to more comprehensive and up-to-date approaches (Frick and Rollins, 1988). This changing situation was partly due to the publication of "A Nation At Risk" (National Commission on Excellence in Education, 1983) and the Holmes Group Report (Tomorrow's Teachers, 1986). The Holmes Group goals, among others, were:

> . . . make the education of teachers intellectually more solid. Teachers must have a greater command of academic subjects and of the skills to teach them, and . . .
>
> . . . recognize differences in teachers' knowledge, skill and commitment, in their educational, certification and work . . .
>
> distinguished between novices, competent members of the profession and high-level professional leaders (Adams, Pratzner, Anderson, and Zimmer, 1987, p. 10).

These concerns were eventually taken to task through a national study by a Committee on Agricultural Education. This study entitled "Understanding Agriculture: New Directions for Education" (National Research Council, 1988), has caused an examination of agricultural education as it now exists in public schools. The study, in particular, pointed out that traditional agricultural education programs were not meeting the broader needs of agricultural teachers, students, and graduates generated by changes in the food and fiber industries and society as a whole (Jaafer, 1991). Subsequently, the study has challenged teacher education programs to change but it has also pointed the direction for that change (Drake, 1990).

With the passage of the Smith-Hughes Act of 1917, and the Vocational Education Act of 1963, as amended in 1968, an increasing number of students have gone through agricultural education programs. Colleges and universities across the nation are turning out agricultural education teachers to meet the demands, but do these teachers possess the professional competencies needed to be successful?

Statement of the Problem

The situation mentioned above calls for simultaneous change, and improvements on the part of the agricultural teacher profession, particularly concerning instructional delivery. It was found that several studies (Frisbeen, 1993; Jaafar, 1991; Jones, 1975; DeVaughan, 1974; and Cotrell, 1971) have been conducted on professional technical competencies in the subject areas of vocational secondary education, but national consensus has yet to be obtained regarding the professional competencies essential for "vocational" agricultural education teachers. Therefore, further studies on competencies relating to the instructional delivery of the basic agricultural education components, such as, classroom and laboratory instruction, National FFA Organization, supervised agricultural experiences, and young/adult farmer education programs, are needed. These components have been traditionally regarded as the integral parts of "vocational" agricultural education.

It was also felt that recent and rapid changes in the agricultural industry (Jaafar, 1991) coupled with changes and concerns about student enrollments in agricultural education, have created the need for agricultural teachers to initiate and update their professional competencies. By identifying those professional competencies a basis with

which to enhance the quality of agricultural education programs could be established. It was hoped that this national study would provide that basis.

Purpose of the Study

The central purpose of this study was to determine the selected professional competencies needed by agricultural education teachers in facing the instructional delivery challenges of the future. These selected professional competencies were determined by obtaining the perceptions of the agricultural teacher educators.

Objectives of the Study

In order to accomplish the above stated purpose, the following objectives were set forth.

1. To determine the mean age, educational level, length of time in the teaching profession, and the length of time in current position of the teacher educators surveyed for this study.

2. To determine agricultural education teachers' present levels of selected professional competencies as perceived by the teacher educators.

3. To determine the future levels of selected professional competencies needed by agricultural education teachers as perceived by the teacher educators.

4. To compare the perceptions of the teacher educators based on years in current position concerning the levels of professional competencies needed by agricultural education teachers in the future.

Assumptions of the Study

The following assumptions were made in conducting this study:

1. An instrument could be developed to obtain perceptions of selected teacher educators as to the degree to which certain professional competencies are necessary to be a successful secondary agricultural education teacher.

2. The agricultural teacher educators requested to provide information needed for the study were, by the nature of their professions and locations when the study was conducted, the most qualified persons to provide such information.

3. Teacher educators are themselves a major factor in determining the effectiveness of the educational programs.

4. The teacher educators were qualified and capable of making judgment concerning the professional competencies needed by a secondary agricultural education teacher.

Scope of the Study

The scope of this study consisted of the agricultural teacher educators located within the United States and Puerto Rico as listed in the Agriculture Teachers Directory (1994) and who have been active in teacher preparation within the last five years. The study was concerned with information that pertained to the professional competencies needed by agricultural teachers as perceived by the agricultural teacher educators who participated in this study.

Because a large number of professional competencies needed in agricultural education programs have been previously identified, it was considered necessary to limit to only major competencies in each category by importance. These competencies studied were rated "important" by teachers and teacher educators in previous studies (Jaafar, 1991; DeVaughan, 1974).

For the purpose of this study, a questionnaire was used as a structured preplanned set of questions designed to yield specific quantitative objective information about the agricultural teacher educators' attitudes and opinions. In addition, the questionnaire included two open-ended questions seeking qualitative subjective information concerning the one professional competency deemed the "most important" and the one professional competency deemed in need of the "most improvement." The data collected were relative to the agricultural education teachers and the agricultural teacher educators for the 1995-1996 school year.

Definition of Terms

The terms below were defined as used in this study unless otherwise cited.

1. Adult Education Program refers to an "organized instruction for persons beyond the age of compulsory school attendance to prepare them for agricultural employment or to increase knowledge and skills required in their agricultural occupation" (Knebel, 1982, p. 5).

2. Agricultural education is the "scientific study of the principles and methods of teaching and learning as they pertain to agriculture" (Barrick, 1989, p. 24).

For the purpose of this study, the term was used synonymously with "vocational" agriculture.

3. Agricultural education teacher refers to a "state certified teacher teaching agricultural classes to high school students" (Smith, 1993, p. 7).

4. Agricultural teacher educator refers to "a professional person in the field of agricultural education responsible for the pre-service preparation and in-service education of agricultural teachers (Knebel, 1982, p. 20).

5. Competency refers to "a knowledge, skills, attitude, understanding, or judgment which is required for an employee to function in his/her position (Alsup, 1982, p. 6).

6. Future competency refers to competency levels needed by agricultural education teachers in the 1990's and beyond.

7. Less or more experienced teachers refers to number of years of teaching experience. For the purpose of this study, the years of experience were categorized in five different ranges.

8. Level of competency refers to "the degree to which one has adequate or specified qualification or capability" (Jaafar, 1991). For the purpose of this study, five levels of competency were employed and the agricultural teacher educators were asked to choose a level for each item studied.

9. Local program refers to an agricultural education program conducted at the local or school level.

10. National FFA Organization refers to "the national organization of students enrolled in agricultural education programs. The FFA activities are an integral part of the instructional programs under provisions of the National Vocational Education Acts" (Knebel, 1982, p. ll).

11. Present competency refers to levels of competencies possessed or held by agricultural education teachers.

12. Professional competency refers to "the mastery level of knowledge and skills necessary for the instructional delivery and management of agricultural education programs in secondary education" (Jaafar, 1991, p. 5).

13. Supervised Agricultural Experience or Supervised Occupational Experience were used synonymously in this study and refer to "the individual student application of knowledge and skill acquired through the instructional component put to practical use outside the classroom under the supervision of the agriculture teacher" (Jones, 1975, p. 9). These supervised learning experiences may be provided by utilizing facilities of the home, farm, school, or an agricultural business (Knebel, 1982).

14. Vocational Agriculture "generally refers to the curriculum or program in agricultural education designed to offer students at the secondary level the opportunity to explore and prepare for agricultural occupations. Also, post-secondary and adult programs are recognized as legal components of vocational agriculture" (Knebel, 1982, p. 21).

CHAPTER II

REVIEW OF LITERATURE

The purpose of this chapter was to present a review of literature and studies directly and indirectly associated with the professional competencies needed by agricultural education teachers. Involved were research studies, books, newsletters, professional magazines, and periodicals pertinent to this study. The review of literature has been organized into eight different sections. These are as follows:

1. Background
2. Coping with Changes in Today's Society
3. Today's Paradox
4. Agricultural Teachers Make It Happen
5. The Need for Teacher Educator's Opinions
6. Past Studies on Agricultural Teacher Competencies
7. Future Competencies of Agricultural Teachers
8. Summary

Background

With the passage of the National Vocational Education Act of 1917, commonly called Smith-Hughes, programs of vocational agriculture were provided in rural high

schools for the purpose of developing interest and competency in farming (Barick, 1993). Although similar programs existed prior to 1917, the demand for teachers was increased many fold with the advent of this federal legislation. In Ohio, as an example, there were 58 agriculture teachers in 1916; within one year after the passage of Smith-Hughes a new crop of 17 teachers had been prepared for Ohio schools (Wolf, 1969).

Since then and until 1963, according to Jaafar (1991, p. 8), these "programs of vocational agriculture had as their primary aims to train present and perspective farmers for proficiency in farming." However, with the passage of the Vocational Education Act of 1963, as amended in 1968, the instructional mission of vocational education in agriculture expanded from strictly production agriculture to encompass agribusiness and natural resource occupations.

Through the mid-1980's, many of these programs designed to stress vocational education became threatened and, in many cases were even phased out (Cox, McCormick and Miller, 1989). As a result, a national study was initiated to address the concerns about enrollments, instructional content, and quality in agricultural education programs (National Academy of Science, 1988). This study, according to Jaafar (1991), reported that vocational agricultural education had lagged behind the school reform movements and that changes in vocational agriculture must occur to maintain the programs.

This new focus came in the form of the Carl D. Perkins Vocational and Applied Technology Education Act of 1990 (P.L. 101- 392). This piece of federal legislation re-focused and changed vocational education with the task of making the United States more productive in the world economy by more fully developing the academic and occupational skills of all segments of the population (Shin, 1994).

Coping with Changes in Today's Society

A study by the Commission in Agricultural Education in Secondary Schools (National Research Council, 1988) revealed that there was a need for change in agricultural education. According to Jaafar (1991), this study indicated that the focus of agricultural education must be broadened to encompass a much larger audience than those traditionally served by vocational agriculture.

Changes in student demographics have dictated that the approach of agricultural education programs must change in order to ensure that all students have the opportunity to fully participate in the programs and receive meaningful instruction (Hughes and Barrick, 1993). One such change in demographics is the decline in the number of students with farm backgrounds. In 1917, approximately one-third of the U.S. population lived in farms. Today, only about 2.2 percent live on farms (National Research Council Committee on Agricultural Education in Secondary Schools, 1988). With the shift in population away from farms, the Committee on Agricultural Education in Secondary Schools (National Research Council, 1988, p. 22) stated that "neither students nor Americans in general have a realistic view of agriculture's scope, career possibilities, involvement with scientific progress and the use of sophisticated biological, chemical, mechanical, and electronic technologies."

Perhaps just as important is the increase in the number of limited opportunity and special needs students enrolled in agricultural education programs. Lindsey (1978) reported that agriculture teachers were experiencing an increase in enrollment of students with limited opportunities for full program participation due to financial situation, lack of

parental support, lack of facilities, or lack of academic ability. Lee (1984) identified one group of special needs students as those who are disadvantaged due to educational, socioeconomic, cultural, or other conditions which prevent them from succeeding in agriculture programs without special assistance. According to Lee (1985), it is rare for an agricultural education program not to have special needs students enrolled.

Agricultural education professionals (Raven, Cano, Garton, and Shelhamer, 1993; Cano, Garton and Raven, 1992) have been examining differences among teachers of agriculture in an effort to better prepare teachers of agriculture to teach to an increasingly diverse student population. Research to date has concluded that not all students learn the same, just as not all teachers teach the same (Raven, Cano, Garton and Shelhamer, 1993; Cano, Garton and Raven, 1992; Cox, Sproles and Sproles, 1988; Rollins, Scholl and Scanlon, 1992). The agricultural education teacher must learn to be flexible and to adjust to the learner's capability (Turner, 1979).

Bloom, Madaus, and Hastings (1981) labeled education as a "process of change," a process in which students must be changed in some way through the instruction they receive. Likewise, change has to occur within the agricultural education profession because society demands change. Iverson and Robinson (1990) noted that the agricultural education program has been unable to keep pace with these ever-changing demands on the agriculture industry and with societal demands on the individual.

According to Jaafar (1991, p. 10), "if change is to occur, there must be a total commitment from the agricultural education community, because any direction of change would certainly impact the image of agricultural education." In a position paper, the National Association of Supervisors of Agricultural Education (1987) once made clear this

needed direction for change when it stated:

> The image of the instructional program in vocational agriculture must be changed to reflect a scientific and futuristic nature. The future of vocational agriculture depends upon a willingness of the agricultural education profession to analyze current programs and adjust them to meet the changes of today's rapidly advancing biotechnology and information technology . . .
>
> . . . Supervised Occupational Experience programs, Future Farmers of America, laboratory experiences, classroom instruction, and adult education must all be modernized to reflect this new image (p. 3).

Powers (1991), reminded of the present and future challenges that agricultural teachers would be facing ahead, stated:

> Changes in technology, program structure, and delivery modes have challenged agriculture teachers to continue to develop programs that will satisfy the needs of current students and prepare them for present and future careers . . .
>
> . . . if agricultural education is to remain current, teachers must develop a minimum level of competency in computer technology and the expertise to communicate it to the students (p. 13).

At the Fourth Annual National Vocational-Technical Teacher Education Seminar, Meisner (1970) summarized his presentation by saying:

> It seems imperative that we as professional educators in vocational education seek to identify commonalties rather than uniquenesses, for without this base, curricular models or prototypes (core or comparable) will be just another 'idea' resulting in little if any change (p. 85).

Meisner (1970) closed his remarks with the question, "do we want to change?" It would seem more appropriate to ask the question, "Can agricultural education survive without change?" Jaafar (1991, p. 10) stated, "In order to bring about agricultural education changes, teachers and their concepts of programs must also change."

Today's Paradox

According to Schulman (1987), teaching may well be the most difficult of all professions to master. In addition, teaching has become such a complex profession making it hard to get uniformly professionally competent teachers. According to Boe (1992) this issue is particularly important because it is widely presumed that teachers possessing a higher degree of professional competency will engage in higher levels of teaching in their classroom, which will lead directly to improve student learning outcomes.

Unfortunately, the design of effective teacher competency improvement policies has been impeded by three problems according to Boe (1992).

1. Little or no general agreement about what specific characteristics of teachers indicate professional competency.

2. Existing models of teacher supply and demand do not address the subject of teacher competency and therefore offer no guidance.

3. Data on variables which might indicate teacher competency are very limited, a circumstance that restricts research that might lead to practical measures of competency.

Boe (1992) further stated that, traditionally, teacher competency has been defined by a teacher's formal qualifications based on the completion of a teacher preparation program. This has led to the assumption that an individual holding a teaching certificate was presumed to be more professionally competent than an individual without a certificate.

There are at least three problems with using teacher certification as an indicator of teacher competency:

1. Standards and procedures for teacher certification vary widely by state.

2. A teacher who holds a certification in two subjects, but not a third, may be assigned to teach classes in all three. In this circumstance, it is not clear whether the teacher should be considered to be competent or not.

3. Past research has not demonstrated reliable or substantial associations between any of the dimensions of teacher competencies and student learning outcomes (Gilford and Tenenbaum, 1990; Hanushek, 1986).

Agricultural Teachers Make It Happen

The importance of the teacher to the success of the educational program can be stated thus: "The success of any program of education, and particularly vocational education, will, in the final analysis, depend very largely upon the teacher" (Federal Board of Vocational Education, 1923, p. 20). We have all had a few excellent teachers, a large number who were only fair, and a few who seemed wholly incompetent. The middle group faded out of our memories. We remember only the best and the worst - the former because they gave us something which we prize beyond any material possession, the latter because of the disgust and resentment which we felt toward them (Cook, 1947).

It can be said that much of the success in agriculture today can be attributed to sound agricultural education program. As stated by Jaafar (1991), these programs, however, must be able to be adjusted so as to meet the ever changing needs of an emerging agriculture industry. Some of the adjustments proposed by the National Association of Supervisors of Agricultural Education (1987) included the need for the development of the individual student in the acquisition of:

- Personal skills and attitudes.
- Communication and computational skills and technological literacy.
- Employment skills.
- Broad agricultural concepts, specific occupational skills, and knowledge to form foundations for career planning and useful learning.
- An understanding of the role and importance of international agriculture and agri-marketing (p. 6).

Jaafar (1991) concluded in his study that the need to develop the education skills as mentioned above cannot be satisfactorily achieved without considering and involving the role and development of teachers, both technically and professionally. Okatahi and Welton (1983) made a special mention of the importance of competent teachers in agricultural education, and that the goals and objectives of agricultural education cannot be achieved without the availability of competent teachers. They also quoted The World Conference on Agricultural Education and Training (1970), held in Copenhagen which reported:

> . . . of all aspects of agricultural education and training, the teacher is the most important. Without good teachers, competent at their work and possessing those qualities which enable them to inspire and develop the latent capabilities of their students, agricultural education as a whole cannot function effectively (p. 67).

The competencies of teachers who teach and guide students in preparation for work and adult life are important factors leading to student success (Shin, 1994). Furthermore, teacher competencies should be based on the roles and functions involved on the job in which training is being planned (Lilly, 1979).

Stewart (1983) recognized the importance of teacher contributions in bringing about change in quality instruction in agricultural education when he stated:

> The teacher is the critical catalyst in quality instruction. Planning, assessing student needs, selecting contents, creating a positive atmosphere, utilizing appropriate methodology, maintaining student control, and utilizing resources are all parts of the process (p. 4).

Johnston (1989) agreed that teachers were responsible for changing and shaping the future of vocational education. He urged:

> Change in vocational education must start with teachers. The vocational education director and instructor must retrain themselves to keep pace with current practices in the workplace and emerging scientific theory (p. 38).

Rawls (1980) reflected on how important it is to accurately match required competencies, including personal development with the duties to be performed. Gartin (1990) complemented highly on the responsibility of agricultural education teachers in bringing about positive change to the students. Gartin (1990) even went so far as to acknowledge that the teacher is one of the single most important features in developing students into becoming a more functional part of today's society.

The importance of the teacher as a tool in bringing about change in technical education was also recognized by Selman (l990) when he stated:

> Teachers are a critical element in education, and in any meaningful education reform effort. Technical education teachers must assess the demands of a changing society and tailor their instruction to meet the present and future needs of students (p. 42).

Additionally, Jones (1975) recognized that since an agricultural education teacher spends a considerable amount of time teaching and supervising young people in a variety of instructional and leadership activities that it was imperative that they possess the competencies needed to motivate students. Super (1970) stated that:

> High school years are essentially years of vocational exploration rather than of preparation for an occupation. They are years in which young people learn much about the world of work and about fitting into it, but in which most youth do not, in fact, choose a life work. They do well if they succeed in laying the foundation for a sound choice by learning about occupations and about the implication of their own abilities and interests for the series of choices with which they are confronted as they go through school and enter the labor force (pp. 121-122).

Drake (1990) singled out the teacher as the one component of any successful agricultural education program. In his research he concluded from various studies that:

> Studies of agricultural education ranging from factors of excellence in individual secondary school programs to perceptions held by administrators and parents often reveal one key overarching variable. That variable is the teacher (p. 10).

The Need for Teacher Educators' Opinions

When looking at undergraduate enrollments, most teacher educators see, ". . . former students of agriculture are clearly in the minority. Most have not lived on a farm or worked in other areas of the agricultural industry" (Cox and McCormick, 1978, p. 186). Agricultural education has become a broad and diverse field both in the subject matter it covers and in the activities it encompasses.

The multitude of activities with which an agricultural education teacher is involved far surpasses the responsibilities placed on other teachers (Andrews, 1977). No undergraduate curriculum and/or combination of skilled teacher educators has yet to prepare the teacher of agriculture fully for the role he/she will perform (Dillon, 1972).

It was hoped that this study would serve as an aid to the teacher educators to help them identify those students who possess the desirable professional competencies that would set them apart from the other students. Teacher education departments in the various colleges and universities need a recruitment and selection process which will ensure that only those students with the most desirable professional competencies actually become secondary agricultural education teachers. Crawford (1987, p. 5) defined the mission of agricultural education in a university to be "teaching others to teach in agriculture." Nelson (1986) charged teacher educators in agriculture to be more proactive and to establish direction that would be broader than the historic Smith-Hughes responsibilities. With this in mind it seems most appropriate that the opinions of the teacher educators should play a big part in this study.

In their article entitled "Recruiting and Selecting Teachers" Annis and Paul (1967), point out that one of the basic reasons for the recruitment problem was a lack of knowledge relative to what should be considered in the selection process. Therefore, it seems reasonable to assume that a profile which would identify both desirable and undesirable professional competencies of teachers of agricultural education would be beneficial. These differences between the competencies identified in the teacher profile could he translated into criteria for a selection process administered by the teacher educators. According to Medley (1982, p. 20), "The teacher education program is concerned with teacher competencies."

Shoemaker's (1972) study summarizes that vocational educators have isolated three background factors which seem to be essential for teaching an occupational subject. These three areas are subject matter competency, occupational education, and

occupational experience. Miller (1982) suggests that:

> The requirements for valid work experience has been the cornerstone of certification for vocational teachers from the outset. The Smith-Hughes Act clearly specified that only persons with practical experience be allowed to teach in federally reimbursed programs. The traditional feeling that one cannot teach skills that one has not personally developed or performed has provided a historical basis and a compelling logic to this requirement (p. 27).

Finally, to understand the need for the teacher educators' opinions concerning the most desirable professional competencies for a secondary agricultural education teacher comes from the results of a study entitled "Recommendations for Formulating State Programs for Improving Agricultural Teachers" (Ivins, 1929, p. 38). Those recommendations included:

1. Providing the teacher educators with a better means of selecting candidates for the agricultural teaching profession.

2. Increasing the college standards to ensure that only those students who are the best qualified receive degrees.

3. The inauguration of a system of self-rating and self- analysis for the prospective teachers.

4. Insisting upon the recognition of a set of professional standards and ideals for agricultural education teachers.

Past Studies on Agricultural Teacher Competencies

"Most fields of education have attempted to list competencies required for effective teaching. These competencies have similarities and yet differ related to the form

of delivery" (Mayton, 1989, p. 22). This identification and validation of competencies needed for the successful teaching of vocational agriculture has been a concern of individuals responsible for planning and administering of agricultural education programs for some time (Jaafar, 1991). Studies concerning professional competencies needed by agricultural education teachers were most abundant during the 1960s and 1970s (Gott and Claycomb, 1981). The importance of updating professional competencies in agricultural education was brought into focus again in the mid-1980s when agricultural educators began discussing the changing of curriculum and its impact on teaching competencies. Much of this emphasis can he traced to the publication of "A Nation At Risk" (National Commission on Excellence in Education, 1988) and the Holmes Group Report (Tomorrow's Teachers, 1986), which exposed the short comings of the American educational system in general, and in the preparation of teachers in particular. To this effect, Moore and Borne (1986) conducted a study and concluded with the following recommendation:

> The curriculum in the upper grades should be based on occupational analysis but the profession should carefully heed the warning of Lathrop (1922) that conditions change and new competencies emerge in the various agricultural occupations.
>
> Many of the competency studies conducted ten to fifteen years ago are now out of date. The profession needs to constantly update the competency studies on which the curriculum is based (p. 79).

During the past decade, most teacher competency studies concentrated on specific areas of technical competency skills, such as, computer usage, human relations, agricultural mechanics laboratory management, classroom management, and instructional delivery competencies.

Nowhere has the impact of the microcomputer been felt more strongly than in the schools of the United States (Fletcher and Deeds, 1994). Bork (1985) declared that computer use in education is a highly dynamic technology and over the next 25 years will become the dominant delivery system in education. The Office of Educational Research and Improvement (1986), in the U.S. Department of Education, reported that 99 percent of all public high schools in the United States have purchased microcomputers. Data from the Second National Survey of Instructional Uses of School Computers indicate that the use of computers appears to be more common in vocational areas that in academic subjects (Survey Maps, 1986).

Sutphin (1985) stated that failure to include and use new technologies in the curriculum may jeopardize the credibility of the local agricultural education program and/or place the teacher at a disadvantage in terms of teaching effectiveness. Bowen, Miller, and Escolme (1989); Miller and Foster (1985); and Raven and Welton (1989) all wrote of the need for agricultural educators to utilize computers and urged training for those in the profession. Probably one of the major computer competency studies was a project featuring a systematic approach to the identification of microcomputer competencies for agricultural education teachers (Roth and Tesolowski, 1985). Both researchers used the DACUM (Developing a Curriculum) process to profile a graphic portrayal of how a microcomputer can be integrated into the overall scheme of vocational instruction and curricula (Jaafar, 1991). This study resulted in profiling 47 competencies clustered into five categories:

1. Developing a personal plan for microcomputer competency.
2. Integrating computer-based instruction (CBI) into vocational curricula.

3. Planning, executing and evaluating CBI.

4. Planning and organizing vocational education learning environments for CBI.

5. Performing classroom management functions with CBI (p. 65).

Overall, this study by Roth and Tesolowski (l984) concluded that agricultural education teachers needed to become more familiar and competent in using computers. Lacina (1985) reported that in her study, to identify the computer competencies perceived to be needed by classroom teachers, that the results strongly recommended the need for classroom teachers to become computer literate. In addition, Lacina (1985) recommended inservice training for teachers currently in schools, and that a computer skills and knowledge course be provided to preservice teachers.

A recent study by Foster (1994) proved the importance of possessing effective human relations skills in order to interact positively with others. This projected impact of human relations abilities on the students of agricultural education teachers becomes more pronounced as society evolves and changes.

In a similar study conducted by Field (1986), concerning the importance of teaching human relations in agriculture, questionnaires identifying four groups of 20 human relations competencies were mailed to 120 graduates of the University of Nebraska's mechanized agriculture program. The results of this study indicated that the graduates felt the human relations competencies were important to possess, and that no significant differences were found among the individual competencies.

In another teacher competency study, Hunter (1987) reported that agricultural education teachers perceived agricultural mechanics and agricultural management competencies as being highly important to their programs. This study also concluded that

teachers' perceptions concerning safety as an essential competency were considered to be extremely important.

In a parallel study to determine the laboratory management competencies needed by secondary agricultural education teachers, Johnson and Schumacher (1988) reported that 88 percent of the agricultural mechanics laboratory management competencies identified in their study were of above average importance. Therefore, they concluded that these identified competencies represented the skills necessary for effective laboratory management as perceived by the agricultural mechanics specialists.

In a more comprehensive study of teacher professional competencies, Lamberth (1982) sought to identify and verify the professional competencies needed and presently held by beginning teachers of vocational agriculture. He concluded that 96 of the 99 identified competencies needed by beginning teachers received very high mean ratings; and similarly, 93 of the 99 identified competencies presently held by the beginning teachers also received very high mean ratings. Thus, it was recommended that those 96 competencies endorsed as being highly rated be included and incorporated in the agricultural education curriculum. The study also recommended teacher education programs periodically evaluate the professional competency needs of beginning teachers so preservice and inservice teacher education programs could be updated as needed.

Another significant study in professional competencies needed by agricultural education teachers was conducted by Rawls and Fatusin (1985). In their investigation, 61 professional competencies were clustered into seven competency areas of program planning, teaching techniques, leadership skills, occupational experience, adult education, guidance, and school-community relations. The study concluded, among others:

- That strong internal consistency exists among vocational agricultural teachers' ranking of the importance of competency areas, supporting their effectiveness to measure competency area concepts.

- That years of experience in teaching vocational agriculture do not significantly affect the perceived importance or utilization of the professional education competency areas studied (p. 69).

Teachers of vocational agriculture used or valued those professional teaching competencies they perceived to be important to their effectiveness in instruction. A detailed study on the importance of teaching competencies in specific curricular areas in vocational education was conducted by Weiser (1989). The study reported that teachers and school administrators of vocational agricultural education schools rated some 19 competencies as of highest importance. These identified teaching competencies which formed the core items fell across all 12 categories of agricultural education components.

A study concerning the importance of teacher activities associated with the program components of agricultural education was undertaken by Cox, McCormick, and Miller (1989). It was revealed in this study that program components dealing with the FFA were considered important by school administrators and agricultural education teachers. However, they were divided on the importance of SAE programs; the teachers gave a high rating whereas the school administrators gave less importance to the program. As for adult education programs, both school administrators and teachers rated them of little importance. The study also concluded and made recommendations that school administrators be informed of the mission of agricultural education and the importance of its component parts and associated activities.

In another study conducted by Kotrlik (1986), the importance of program components and teacher quality factors were highlighted. The results of that study pointed

out that SAE programs and agricultural mechanics were perceived as being the most important components in insuring quality programs in the future. In the same study, teacher quality and retention was perceived as being the most important factor in insuring quality programs in the future. This factor loading included the five top ranked individual factors:

> Teacher pay and benefit (#1)
> Teacher professionalism (#2)
> Retention of competent teachers in the profession (#3)
> Quality of new vocational teachers (#4)
> Leadership shown by individual agricultural teachers (#5) (p. 28).

Finally, in a study conducted by Mallah (l991), agricultural education teachers and teacher educators were surveyed to assess the degree of competencies needed by agricultural teachers for 92 professional competencies.

The agricultural education teachers indicated the greatest need for professional competencies related to evaluation of instruction, whereas, the teacher educators perceived the greatest need to be in professional development.

Future Competencies of Agricultural Teachers

"Competency suggests the mastery of basic knowledge in a given field" (Rangraj, 1989, p. 18). Finch and Crunkilton (1989) addressed this in a little more depth:

> Competencies for vocational and technical education are those tasks, skills, attitudes, values, and appreciations that are deemed critical to success in life and/or earning a living (p. 242).

This latter comment breaks down the definition into five different behaviors: tasks, skills, attitudes, values, and appreciations. Many times competencies are thought of only

as psychomotor, but one must add cognitive and attitudinal (Miller, 1990). Miller broke down competencies into these three areas:

> . . . the knowledge, skills, and attitudes acquired are, in a real sense, the content of the curriculum . . .
>
> . . . content may be synonymous with competencies (p. 61).

What kinds of competencies will be needed in the future workplace: psychomotor, cognitive, attitudinal, or all three?

While a number of studies have contributed significantly to the identification of a common core of competencies for vocational- technical teachers. According to Jaafar (1991), it is important that these competencies be identified and validated from time to time in order to cope with the changes in agricultural education. Future agricultural education teachers will need to adjust their teaching skills to the demands of future technologies. According to Luft (1990), in laying down the foundation and types of variable agricultural programs of the 1990s:

> Agricultural instructors should incorporate new technologies in the instruction. Exposure to technology in agriculture demonstrates to the students the changes that are occurring in which they can be a part of it (p. 18).

This need to prepare quality and competent future agricultural education teachers can best be seen with the help of a future high technology scenario (Molcma, 1985):

> As we face the high technology future in agriculture, we need to consider the impact and use of satellite surveillance of crop and weather conditions, computers and electronic data processing; robotics with microchips and electronic sensors; cloning, recombinant DNA, protoplast fusion and genetic engineering; for producing pharmaceuticals and health chemicals; and microwave communications all integrated into a vast system of agricultural production, marketing

> and processing. The equipment of the future will be combinations of mechanical, electrical, electronic, fluid, optical and thermal power applications (p. 18).

Mokma (1985) further added that the implications for preparing future agricultural education teachers are very profound. These agricultural education teachers of the future must be technologically competent but also must have the pedagogical skills to deliver quality instruction.

"A future agricultural education teacher must be able to perform delivery instruction proficiently and competently in order to maintain a quality local program" (Jaafar, 1991. p. 19). According to Berkley (1986), a quality agricultural education program will require a balance between classroom and laboratory instruction, National FFA Organization, and Supervised Agricultural Experience (SAE) programs. In addition, an effective classroom and laboratory teacher must be knowledgeable of curriculum and in the selection and use of quality instructional materials.

A future agricultural education teacher will have to be more aware of the total industry of agriculture than they have been in the past (Jaafar, 1991). Herring and Norris (1987) laid out high expectations for future agricultural education teachers, especially with regard to their attitudes and commitment towards their programs. They stated:

> Teachers of the future must be willing to embrace the new technologies being introduced into the agricultural industry as well as education. They must be flexible in thinking, ever aware of new innovations being introduced, and dedicated to continuing their education to keep abreast of the ever changing face of the industry . . .
>
> With much of the delivery of information being done with computer and interactive video systems, the role of the teacher will take on new dimensions. More attention to individualized instruction will be a necessity (p. 20).

In another study, Burton (1988) gave the following characteristics as some of the pre-requisites of a future agricultural education teacher:

> Tomorrow's agricultural teacher will need to be skilled in the use of computers, both in the classroom and in management of budgets, inventories, grades, recordkeeping, and a variety of other uses. A high level of proficiency in adapting new technologies to educational uses will be a real asset to the future teacher (p. 5).

Agricultural education teachers will need to be current in their technical and teaching skills. They will need to be adaptable to the rapid changes both in agricultural industry itself, and in the educational setting in which they teach. Pool (1990) reminded agricultural educators to take a serious look at the present trend in agricultural education when he said:

> It does not take too much inspection of the current trends in today's agriculture and agricultural related business to see that the current and projected uses of technology is on the upswing and will continue so into the future. Today's farm management and agribusiness management have adopted the use of microcomputers and satellite video communications to better glean information available to make the best market and management decisions. The vocational agricultural teachers who are not knowledgeable and current on these technological advances will soon find themselves in the dust of obsolescence (p. 9).

Jaafar (1991) concluded that a successful agricultural education teacher was often identified as one who was flexible and could adopt to changing situations. He/she must always be prepared, knowledgeable and skilled in adapting the constantly emerging curricular changes.

More recent studies into instructional areas and into time spent in agricultural education classrooms have revealed that students and school administrators feel that the current amount of time spent in all areas, except global agriculture and high technology, are adequate at the present time (Carpenter and Bishop, 1990). In this same study, it was

reported that teachers, students and school administrators felt that more concentration should be placed on non-production curricular areas with specific emphasis on high technology, agribusiness and global agriculture. This means that future agricultural education teachers should be prepared and competent to teach in these new curricular areas.

The future success of the Supervised Agricultural Experience (SAE) programs, which is an integral component of vocational instructional delivery, will depend on the attitudes and competencies of the agricultural education teachers. Toward this end, Cheek and Arrington (1990) expect the agricultural education teacher of the future to be more knowledgeable and skillful in seeing and handling instruction involving Supervised Agricultural Experience (SAE) programs. These future experiential learning/ teaching activities, according to Cheek and Arrington (1990), will need to provide experiences in areas related to biotechnology, food science, marketing, communications, the environment, and exploratory programs. In addition, this study recommended agricultural education teachers placing their students in local university agricultural experimental stations to work on biotechnological experiments, or sending their students to food processing plants where they could seek experiences in testing, processing, storage, and quality control related to food products.

An agricultural education teacher's involvement in an FFA program was recognized as an important contribution to total success of any agricultural education program (Jaafar, 1991). In fact, it has been said that the teacher factor makes the difference between a successful and an unsuccessful FFA program. Stewart (1983) related and described the importance of future agricultural education teachers to the FFA program

as follows:

> The teacher is ultimately the difference between success and failure in agricultural education/FFA programs . . .
>
> National and state improvements are successful when local agricultural instructors make adaptations to maintain their competitive edge . . .
>
> The profession (agricultural education) must do more to equip teachers with leadership and management skills which enable them to best utilize their talents and resources available in their school and community . . .
>
> The teacher is the key to seeing a bright and growing future from the changes made in FFA (p. 16).

Concerning the agricultural education teachers involvement with this situation, Harris (1988) outlined some of the priorities that the teachers should be aware of and concerned with. They were:

- Recruitment and maintenance of student enrollment
- Agriscience and emerging occupations and technologies
- Agri-marketing in global economy
- Leadership skill development
- Business skill development
- Enhancement of community support
- Understanding the social, political and economic forces which impact international agriculture (p. 5).

According to Jaafar (1991), the skills and attitudes of agricultural education teachers have a lot to do with the success of Supervised Agricultural Experience (SAE) programs. This teacher factor was mentioned by Powers (1989) when he described the directions and strategies for future Supervised Agricultural Experience (SAE) programs. He said:

> Strategies for strengthening the summer program via developing effective SOE, which should start with a positive attitude on behalf of the teacher and a plan for development and implementation . . .

> If the teacher can recognize and accept that student needs, school curriculum, and society are changing and endeavor to develop SOE consistent with these changes, this is the first step toward developing that positive attitude. Many writers have indicated that there is a strong correlation between the attitude of the teacher and the quality of the program he/she is directing (p. 10).

Summary

Chapter II presented an overview of the recent changes that have taken place in the agriculture industry and in agricultural education. It is these changes that have created the need to study the present level of agricultural education teachers' professional competencies and the need to study the professional competencies needed in the future. The Literature Review began with a look at today's changing society, how agricultural education teachers make it happen, and concluded with a look at past competency studies and their recommendations for future competency levels.

A thorough investigation of the literature has revealed that agricultural education teachers are one of the most important factors that can bring about changes and improvements to agricultural education. Previous studies in agricultural education teacher competencies have pointed out the need for teachers to continually upgrade their professional competencies. The future competencies that needed to be studied ranged from planning of instructional agricultural programs at local levels to instruction and management involving international or global agricultural markets. However, professional competencies which were frequently mentioned and needed were those concerned with: (1) computer skills and computer-assisted instruction; (2) human relation skills; (3) classroom and laboratory management; and (4) instructional delivery.

CHAPTER III

DESIGN AND METHODOLOGY

The purpose of this chapter was to describe the methods and procedures used in conducting this study. These were formulated by the central purpose of the study, which was to determine the selected professional competencies needed by agricultural education teachers in facing the instructional delivery challenges of the future as perceived by the agricultural teacher educators. In order to collect data which would provide information relating to the purpose and objectives of this study, the population was determined and the instrument was developed for data collection. A procedure was established for data collection and methods of data analysis were selected. Information was collected during the summer and fall of 1995.

Four specific objectives were formulated and served as guidelines for the design and conduct of this investigation. These objectives were as follows:

1. To determine the mean age, educational level, length of time in the teaching profession, and the length of time in current position of the teacher educators surveyed for this study.

2. To determine the agricultural education teachers' present levels of selected professional competencies as perceived by the teacher educators.

3. To determine the future levels of selected professional competencies needed by agricultural education teachers as perceived by the teacher educators.

5. To compare the perceptions of the teacher educators based on years in current position concerning the levels of professional competencies needed by agricultural education teachers in the future.

Type of Research

This study was descriptive in nature and involved the assessment of attitudes and opinions. According to Gay (1981):

> Descriptive research involves collecting data in order to test hypotheses or answer questions concerning the current status of the subject of the study. A descriptive study determines and reports the way things are. One common type of descriptive research involves assessing attitudes or opinions toward individuals . . .
>
> Descriptive data are typically collected through a questionnaire survey, an interview, or observation (p. 12).

For this study, a questionnaire survey method was used. According to Key (1974, p. 101), "a questionnaire is considered to be a written or printed form used in gathering information on a subject or subjects consisting of a list of questions to be submitted to one or more persons." The purpose of a questionnaire, according to Hopkins (1980) is:

> To establish prevailing conditions at a point in time and to compare them with some established standards or with conditions in another population or time. Generalizations may also be extracted from conditions. As with all research, the survey must be directed by a clearly presented question that defines the scope and depth of the study (p. 277).

Institutional Review Board (IRB)

Federal regulations and Oklahoma State University policy require review and approval of all research studies that involve human subjects before investigators can begin their research. The Oklahoma State University Research Services and the IRB conduct this review to protect the rights and welfare of human subjects involved in biomedical and behavioral research. In compliance with the aforementioned policy, this study received the proper surveillance, was granted permission to continue, and was assigned the following number: AG-96-001.

The Study Population

The scope addressed in this study, consisted of all 243 agricultural education teacher educators in the United States and Puerto Rico, as defined by the American Association of Teacher Educators in Agriculture (AATEA), and whose names were registered in the Agriculture Teachers Directory (1994).

Jaccard (1983) defines a population as the aggregate of all cases to which one wishes to generalize. However, since this study was concerned with agricultural education teacher professional competencies, only those teacher educators who are now or who have been actively involved in teacher preparation during the last five years were included in this study. This population of teacher educators was identified and self-selected by the teacher educators answering question number five on Part I of the questionnaire. (Have you been actively involved in the preparation of agricultural

education teachers within the last five years?). A "yes" response to this question meant the respondents were included in the population, a "no" response meant they were not.

The agricultural teacher educators who were included in this study were asked for their perceptions concerning the professional competency level, both present and future, of the agricultural education teachers and not their perceptions concerning their own professional competency levels.

In addition, since the population size of agricultural teacher educators could not be accurately determined without a 100 percent response, the researcher attempted to solicit as many responses as possible.

Table I reflects the respondents of this study by state, including Puerto Rico. Of the 243 agricultural teacher educators included in this study, 186 (76.5 percent) responded.

Development of the Instrument

The survey instrument used in this study was in the form of a questionnaire. This questionnaire was developed by reviewing literature to find possible lists of professional competencies in order to determine those which were relevant to the objectives of this study. Based upon this investigation, several tentative sets of agricultural teacher professional competencies recorded by DeVaughan (1974), Herring (1976), Gott and Claycomb (1981), Lamberth (1982), Wilson (1983), Jaafar (1991), and Smith (1993) were obtained. A thorough screening, modification synthesis process was undertaken to develop an appropriate instrument for this study.

TABLE I

POPULATION AND RESPONDENTS BY STATE

State	Number of Educators	Percent of Total	Number of Respondents	Percent Returned
Alabama	6	2.47	4	66.67
Arizona	6	2.47	5	83.33
Arkansas	12	4.94	10	83.33
California	9	3.70	6	66.67
Colorado	2	.82	1	50.00
Connecticut	1	.41	1	100.00
Delaware	1	.41	1	100.00
Florida	8	3.29	5	62.50
Georgia	4	1.65	4	100.00
Hawaii	1	.41	0	00.00
Idaho	4	1.65	4	100.00
Illinois	9	3.70	8	88.89
Indiana	2	.82	2	100.00
Iowa	4	1.65	3	75.00
Kansas	4	1.65	1	25.00
Kentucky	7	2.88	6	85.71
Louisiana	4	1.65	3	75.00
Maryland	1	.41	1	100.00
Massachusetts	2	.82	2	100.00
Michigan	2	.82	2	100.00
Minnesota	5	2.06	4	80.00

TABLE I (Continued)

State	Number of Educators	Percent of Total	Number of Respondents	Percent Returned
Mississippi	8	3.29	5	62.50
Missouri	8	3.29	6	75.00
Montana	2	.82	2	100.00
Nebraska	4	1.65	4	100.00
Nevada	1	1.23	1	66.67
New Jersey	1	.41	1	100.00
New Mexico	5	2.06	3	60.00
New York	3	1.23	2	66.67
North Carolina	9	3.70	8	88.89
North Dakota	1	.41	1	100.00
Ohio	9	3.70	7	77.78
Oklahoma	9	3.70	8	88.89
Oregon	3	1.23	3	100.00
Pennsylvania	13	5.35	10	76.92
Puerto Rico	3	1.23	3	100.00
Rhode Island	1	.41	1	100.00
South Carolina	5	2.06	2	40.00
South Dakota	2	.82	1	50.00
Tennessee	8	3.29	5	62.50
Texas	24	9.88	18	75.00
Utah	7	2.88	6	85.71
Virginia	6	2.47	4	66.67
Washington	3	1.23	3	100.00
West Virginia	4	1.65	2	50.00
Wisconsin	6	2.47	5	83.33
Wyoming	1	.41	0	00.00
Totals	243	100.00	186	76.54

In analyzing various data gathering instruments, the questionnaire was determined to be the most appropriate to meet the study objectives. Wallace (1958) provided the following information regarding the use of a questionnaire:

> Although mail questionnaires are often the most practical and economical methods of obtaining data, some investigators hesitate to employ them because they tend to yield a low percentage of returns and relatively incomplete responses (pp. 568-578).

However, if the questionnaire is well constructed and accompanied by a cover letter explaining the need for the study, an adequate response rate should be expected. According to Levine and Gordon (1958), the degree to which a questionnaire elicits the desired information depends considerably upon the manner in which it was constructed.

Despite the most diligent efforts in questionnaire preparation and design, a considerable number of respondents will fail to respond to the initial mailing.

In order to increase the validity of the instrument, the questionnaire was divided into three parts:

Part I included demographics or the agricultural teacher educator population, with the purpose being to determine a mean profile of the agricultural teacher educators who responded to the survey. This part was used to satisfy the first objective of this study.

Part II consisted of 12 separate sections, each designed to make a determination about the professional competencies needed by agricultural education teachers as perceived by the teacher educators. Because of the long list of professional competencies, the questionnaire was developed and arranged into these 12 sections to provide clarify and understanding. The professional competency items were categorized according to the following headings.

A. Planning, Development and Evaluation of Local Programs

B. Instructional Planning

C. Teaching Methods and Techniques

D. Instructional Evaluation

E. Department Management

F. Guidance

G. School-Community Relations

H. National FFA Organization

I. Adult Education Program

J. Supervised Agricultural Experience Program (SAEP)

K. Teacher Professionalism

L. Agricultural and Technological Development

The 12 sections of Part II addressed objectives two and three of the study. Part III was labeled as a general section and it was designed to obtain comments from the respondents to aid in comparing the perceptions of the agricultural teacher educators. This part of the questionnaire addressed study objective number four.

In the professional competency portion of the questionnaire, the teacher educators were asked to rate the levels of professional competencies possessed or held presently by the agricultural education teachers, and the level of competencies needed in the future.

For the purpose of this study, a five-point Likert-type scale was employed to elicit respondent's perceptions as to importance of the various items on the instrument. The categories and values of the response scale were as follows:

1 = Minimal

2 = Below Average

3 = Average

4 = Above Average

5 = Highly Competent

This type of scale represents a forced choice situation where the respondents must make a definite determination about each professional competency.

In order to increase the reliability of the instrument, the same questionnaire was sent to each of the agricultural teacher educators surveyed.

Pilot Study

Most of the competency statements used in the questionnaire of this study were drawn from selected professional competency studies. The main source of the competency statements was a study on professional competencies conducted by Jaafar in 1991. However, further development and scrutiny were necessary in order to improve the content and format of the survey instrument. It was important that the questionnaire contain questions which were both qualitative and quantitative. To accomplish this task, a research class of graduate students was utilized to review and validate the instrument. Finally, the instrument was reviewed and validated by a group of agricultural teacher educators.

Fraenkel and Wallen (1990, p. 479) defined a pilot study as: "a small-scale study administered before conducting an actual study-- its purpose it to reveal defects in the research plan."

The data from the pilot study was used to make corrections and to help ensure that the instrument was reliable in obtaining the data needed to accomplish the objectives of this study.

Before mailing, the questionnaire was again checked, this time by the researcher's graduate committee. Again, modifications were made before the instrument was mailed to the response group.

Collection of Data

The questionnaires were mailed on July 10, 1995 to the agricultural teacher educators within the United States and Puerto Rico. A self-addressed, stamped envelope was enclosed for each respondent. In addition, a cover letter explaining the importance and value of the study and its relationships to the continued success of the agricultural education programs was also included.

Approximately six weeks after the first mailing, 156 (64.2 percent) of the agricultural teacher educators responses were returned. After that period a second follow-up mailing to the non-respondents was carried out on August 21, 1995. Approximately three weeks after the second mailing, 186 (76.5 percent) of the agricultural teacher educators responses had been returned and were utilized in this study.

There were some responses that were received after the study was completed, however, there were no significant differences between them and those that were analyzed for the study.

Analysis of Data

The returned instruments were scored and tabulated according to geographical location. A System for Statistics (SYSTAT) program was used to analyze the data. This was accomplished by using the Oklahoma State University mainframe computer.

The first step in data analysis was to describe it in a summary fashion using descriptive statistics such as frequency counts, mean scores, and percentages. According to Key (1981):

> The primary use of descriptive statistics is to describe information or data through the use of numbers. The characteristics of groups of numbers representing information or data are called descriptive statistics (p. 176).

In order to determine the mean responses from the data collected the individual responses to the five-point Likert-type scale were combined and analyzed. In addition, the questions that incorporated forced choice responses were rated on scales. Real limits were established and numerical values were assigned to the categories of importance with regard to agricultural education teacher professional competencies.

The demographic data obtained consisted of respondent's age, educational level, years in the teaching profession, and years in current position. These data were used to arrive at a mean score for each of these four items and then used to determine a profile for each of the response groups. A one-way analysis of variance was employed in order to compare mean responses between five age groups. Where differences were found, a follow-up Duncan New Multiple Range Test was employed to locate where the differences occurred between these groups. The groups analyzed were divided into five

groups according to years of experience. They were: 0-5 years; 6-10 years; 11-15 years; 16-20 years; and 21 plus years.

The respondents were asked to respond to the questions pertaining to present and future levels of professional competency by circling either: (1) Minimal; (2) Below Average; (3) Average; (4) Above Average; or (5) Highly Competent. Each category was then assigned a specific number therefore enabling the researcher to determine a mean response and interpret that mean response. Minimal was assigned a value of 1, Below Average was assigned a value of 2, Average was assigned a value of 3, Above Average was assigned a value of 4, and Highly Competent was assigned a value of 5.

In order to aid in interpreting the mean responses, it was essential to establish real limits for the numbers used in the categorical rating scales. For the category Minimal, real limits were set at 1.00 to 1.49. For the category Below Average, real limits were set at 1.50 to 2.49. For the category Average, real limits were set at 2.50 to 3.49. For the category Above Average, real limits were set at 3.50 to 4.49. And, for the category Highly Competent, real limits were set at 4.50 to 5.00.

In addition, the respondents were asked to name the one professional competency that they perceived to be the most important for a secondary agricultural education teacher to possess and to name the one professional competency that they perceived to need the most improvement. In addition, the respondents were asked to list any additional competencies which were not listed on the survey instrument, but which they perceived to be important for the secondary agricultural education teacher to possess either presently

or in the future. Comments were also solicited from the respondents. This qualitative data obtained from these questions was categorized into one of the 12 competency areas and used to help compare the perceptions of the agricultural teacher educators.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

The purpose of this chapter was to report the results from the mailed questionnaire used to conduct this study. The primary purpose of this study was to determine the selected professional competencies needed by agricultural education teachers in facing the instructional delivery challenges of the future. These selected professional competencies were determined by obtaining the perceptions of the agricultural teacher educators. In order to accomplish the purpose of this study, the following objectives were set forth:

1. To determine the mean age, educational level, length of time in the teaching profession, and the length of time in current position of the teacher educators surveyed for this study.

2. To determine agricultural education teachers' present level of selected professional competencies as perceived by the teacher educators.

3. To determine the future levels of selected professional competencies needed by agricultural education teacher as perceived by the teacher educators.

4. To compare the perceptions of the teacher educators based on years in current position concerning the levels of professional competencies needed by agricultural education teachers in the future.

The scope of this study included the 243 agricultural teacher educators located within the United States and Puerto Rico (as defined by the American Agricultural Teacher Educator Association), and listed in the Agriculture Teachers Directory (1994). Of the 243 agricultural teacher educators included in this study, 186 (76.5 percent) responded to the mailed questionnaire.

Demographic Profile of Respondents

In order to more adequately describe the respondents, descriptive research techniques were employed to develop a demographic profile of the agricultural teacher educators surveyed in this study. This brief demographic profile included age, educational level, length of time in the teaching profession, and the length of time in current position.

Of the agricultural education teacher educators who responded to the questionnaire, the mean age was 48.26 years with a standard deviation of 8.75 years. Information reported in Table 2 shows the distribution of the respondents by age group. The teacher educators were grouped into four different age ranges, namely, 30-39 years; 40-49 years; 50-59 years; and 60 years and above. The largest age group among the teacher educators was that of the 40-49 year range which represented 38.7 percent, and the smallest age group was that of the 60 years and above, representing 10.8 percent. None were reported to be below 30 years of age.

Another demographic variable for which data were gathered concerned the educational level of the respondents. Information presented in Table 3 shows that a majority of the teacher educators, 95.2 percent, possess a Doctoral degree, while the next

TABLE 2

DISTRIBUTION OF RESPONDENTS BY AGE GROUPS

Age Group In Years	Teacher	Educators
	N	%
30 -39	30	16.1
40 - 49	72	38.7
50 - 59	61	32.8
60 and above	20	10.8
Non-Respondents	3	1.6
Total	186	100.00

TABLE 3

DISTRIBUTION OF RESPONDENTS BY EDUCATION LEVEL

Education Level	Teacher Educators	
	N	%
Master's Degree	8	4.3
Specialist Degree	1	.5
Doctoral Degree	177	95.2
Non-Respondent	0	0.0
Total	186	100.0

highest level, the Master's degree, was held by only 4.3 percent. Only .5 percent held the Specialist degree.

Another demographic variable studied was the number of years of teaching experience. Of the agricultural teacher educators who responded to the questionnaire, the mean years of teaching experience was 23.90 years with a standard deviation of 9.15 years. Information in Table 4 shows the distribution of respondents by the number of years of experience.

The years of experience was categorized into six groups: 6-10 years; 11-15 years; 16-20 years; 21-25 years; 26-30 years; and 30 plus years of experience. It was found that the teacher experience was almost equally shared among three groups: 16-20 years (17.2 percent); 21-25 years (17.7 percent); and 26-30 years (15.6 percent). However, the group that was most represented was that of 30 and plus years of experience, accounting for 28.5 percent. The number of teacher educators with 11-15 years accounted for only 12.4 percent and the numbers decreased dramatically for those educators in the 6-10 year range (8.6 percent).

The last demographic variable for which data were gathered concerned the respondents' length of time in their current position. Of the agricultural teacher educators who responded to the questionnaire, the mean years in current position was 12.24 years with a standard deviation of 8.60 years.

Information presented in Table 5 shows the distribution of respondents by the number of years in current position. The years in current position were categorized into four groups: 0-5 years; 6-10 years; 11-15 years; and 16 plus years.

TABLE 4

DISTRIBUTION OF RESPONDENTS BY YEARS OF EXPERIENCE

Years Experience Group	Teacher N	Educators %
6 - 10	16	8.6
11 - 15	23	12.4
16 - 20	32	17.2
21 - 25	33	17.7
26 - 30	29	28.5
Non-Respondent	0	0.0
Total	186	100.0

TABLE 5

DISTRIBUTION OF RESPONDENTS BY YEARS IN CURRENT POSITION

Years Group	Teacher N	Educators %
0 - 5	51	27.4
6 - 10	42	22.6
11 - 15	30	16.1
16 plus	63	33.9
Non-Respondents	0	0.0
Total	186	100.0

It was found that the teacher educators in their current position for 16 plus years made the largest group(33.9 percent). The next largest group was the teacher educators who had been in their current position for 1-5 years (27.4 percent); followed by those who had been in their current position for 6-10 years (22.6 percent). The group with 11-15 years in their current position was the smallest group (16.1 percent).

The findings described in this section were in accordance with the first objective of the study. The first objective being to determine the mean age, educational level, length of time in the teaching profession, and the length of time in current position of the teacher educators surveyed for this study.

Perceptions of Present Competency Levels and the Competency Levels Needed in the Future

The findings described in this study were in accordance with the second and third objectives of the study which were to determine the education competencies presently held by agricultural teachers and to determine the future levels of education competencies needed by agricultural teachers. These competencies were categorized into 12 main instructional competency areas.

Planning, Development and Evaluation of Local Programs

Table 6 contains data from 186 teacher educator respondents concerning perceptions of competency levels presently held by the agricultural education teachers in planning,

TABLE 6

RESPONDENTS' PERCEIVED LEVELS OF PRESENT COMPETENCY IN PLANNING, DEVELOPMENT AND EVALUATION OF LOCAL PROGRAMS

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Planning and conducting community survey	2.7	10.3	48.6	27.6	10.8	100.0	3.34	Average
Organizing and working with advisory committee	0.5	5.9	29.7	35.1	28.6	100.0	3.85	Above Average
Developing short and long range goals & objectives	0	3.8	27.2	33.2	35.9	100.0	4.01	Above Average
Developing an annual teaching plan	0	2.7	20.8	32.8	43.7	100.0	4.17	Above Average
Evaluating local programs	0.5	9.2	28.3	36.4	25.5	100.0	3.77	Above Average
Total Group Mean Value							3.83	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

development and evaluation of local programs. All competency items presently held by teachers were perceived to be "above average" competency, except for the first item "planning and conducting community service" where 48.6 percent of the respondents indicated as of "average" competency. The competency item perceived as of having the highest mean value presently held by teachers was "developing an annual teaching plan.." recorded with a mean of 4.17. The total mean of all competency items in the category was 3.83, which was less than mid-way between the "above average" competency range.

Teacher educators' perceived levels of education competencies needed in the future in the areas of planning, development and evaluation of local programs is shown in Table 7. The data indicates that more responses were "above average" competency, except for the competency in "developing an annual teaching plan" which was rated as of "highly competent" (4.55). On the whole, the educators rated the total mean of all competency items in this category 4.28, which was more than mid-way between the "above average" competency range.

Instructional Planning

Data presented in Table 8 depicts the perceived competency levels presently held by the agricultural education teachers in instructional planning. It was indicated by the respondents that all three competency items in the instructional planing category were "above average." In addition, the competency "determine needs and interests of students" was the highest rated item with a mean value of 4.14. The total group mean value for this category of competencies was 4.06, which was at the mid-way point of the "above average" competency range.

TABLE 7

RESPONDENTS' PERCEIVED LEVELS OF FUTURE-NEEDED COMPETENCY IN PLANNING, DEVELOPMENT AND EVALUATION OF LOCAL PROGRAMS

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Planning and conducting community survey	4.3	7.0	29.2	39.5	20.0	100.0	3.64	Above Average
Organizing and working with advisory committee	0	1.6	8.6	35.7	54.1	100.0	4.42	Above Average
Developing short and long range goals & objectives	0.5	0.5	10.9	26.1	62.0	100.0	4.48	Above Average
Developing an annual teaching plan	0	0.5	8.7	26.1	64.7	100.0	4.55	Highly Competent
Evaluating local programs	0.5	1.1	13.0	35.3	35.3	100.0	4.33	Above Average
Total Group Mean Value							4.28	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

TABLE 8

RESPONDENTS' PERCEIVED LEVELS OF PRESENT COMPETENCY
IN INSTRUCTIONAL PLANNING

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Determine needs and interests of students	0	4.3	16.7	39.8	39.2	100.0	4.14	Above Average
Develop student performance objectives	0	3.8	27.4	33.3	35.5	100.0	4.01	Above Average
Plan and write daily teaching plan	0	5.4	21.0	37.1	36.0	100.0	4.03	Above Average
Total Group Mean Value							4.06	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

Data presented in Table 9 shows the percentage of responses by educators on the levels of competencies in instructional planning needs for the future. The highest percentage response in all competency items fell within the "highly competent" level for "determine needs and interests of students" (66.7 percent). In addition, the mean value for this competency item was 4.60. The total group mean value for all the competencies within this category was 4.44, which was the very end of the "above average" competency range.

Teaching Methods and Techniques

The next category of competency studied was teaching methods and techniques. Eight different competency items were administered. Information recorded in Table 10 shows how educators perceived the presently held competency levels of agricultural education teachers in methods and techniques of teaching. The results reveal that six of the eight presently held education competencies were perceived to be of "above average" competency. The single highest competency item which was rated "highly competent" was in the "control student behavior by establishing good rapport"category. The mean value for this item was 4.27. Educators responded poorly on the "apply team teaching" competency. Over seven percent of the educators rated the presently held competency in this particular item as "minimal;" The mean value for this item was only 3.13. The total group mean value for all the competency items within this category was 3.93, which was mid-way between the "above average" competency range.

Information presented in Table 11 shows the percentage of responses concerning the future levels needed competencies in teaching methods and techniques. As shown in

TABLE 9

RESPONDENTS' PERCEIVED LEVELS OF FUTURE-NEEDED COMPETENCY IN INSTRUCTIONAL PLANNING

Competency	Percentage of Responses by Perceived Levels of Competence							Descriptor
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	
Determine needs and interests of students	1.1	0	3.8	28.5	66.7	100.0	4.60	Highly Competent
Develop student performance objectives	0.5	0.5	11.8	32.8	54.3	100.0	4.40	Above Average
Plan and write daily teaching plan	0.5	2.2	12.4	33.9	51.1	100.0	4.33	Above Average
Total Group Mean Value							4.44	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

TABLE 10

RESPONDENTS' PERCEIVED LEVELS OF PRESENT COMPETENCY IN TEACHING METHODS AND TECHNIQUES

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Introduce a lesson	0.5	2.2	20.7	33.7	42.9	100.0	4.16	Above Average
Apply different methods and techniques of teaching	0	2.7	16.3	37.5	43.5	100.0	4.22	Above Average
Motivate and involve students in teaching/ learning process	0.5	2.2	12.4	33.9	51.1	100.0	4.33	Above Average
Use appropriate audio-visual aids	1.1	2.2	26.5	33.7	36.5	100.0	4.02	Above Average
Control student behavior by establishing good rapport	0	2.2	17.7	30.9	49.2	100.0	4.27	Above Average
Use computer-assisted instruction	3.8	13.6	35.9	29.9	16.8	100.0	3.42	Average
Apply team teaching	7.1	16.8	44.0	20.1	12.0	100.0	3.13	Average
Summarize a lesson	1.1	2.2	25.0	33.7	38.0	100.0	4.05	Above Average
Total Group Mean Value							3.93	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

TABLE 11

RESPONDENTS' PERCEIVED LEVELS OF FUTURE-NEEDED COMPETENCY IN TEACHING METHODS AND TECHNIQUES

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Introduce a lesson	0	0.5	9.2	30.4	59.8	100.0	4.50	Highly Competent
Apply different methods and techniques of teaching	0	0	3.8	16.4	79.8	100.0	4.76	Highly Competent
Motivate and involve students in teaching/ learning process	0	0.6	2.8	16.0	80.7	100.0	4.77	Highly Competent
Use appropriate audio-visual aids	1.1	2.2	26.5	33.7	36.5	100.0	4.02	Above Average
Control student behavior by establishing good rapport	0.6	0.6	5.5	21.5	71.8	100.0	4.64	Highly Competent
Use computer-assisted instruction	0	0	1.6	21.7	76.6	100.0	4.75	Highly Competent
Apply team teaching	1.1	2.7	19.0	36.4	40.8	100.0	4.13	Above Average
Summarize a lesson	0	0	10.9	35.9	53.3	100.0	4.42	Above Average
Total Group Mean Value							4.57	Highly Competent

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

the table, six of the eight education competencies were perceived as needing to be "high competent" in the future. The item "motivate and involve students in teaching/learning process" was perceived to be the most needed competency in the future, having a mean value of 4.77, as 80.7 percent of the respondents rated it "highly competent." On the other side of the scale, the teachers perceived "apply team teaching techniques" as the least needed competency mean value for all the competency items within this category was 4.57, which is in the "highly competent" range.

Instructional Evaluation

The next category of education competency studied was instructional evaluation. Three competency items were included in this category. Information presented in Table 12 shows the perceived levels of education competencies in instructional evaluation presently held by agricultural education teachers. It was perceived that two levels, the "minimal" and the "below average" were the least commonly responded to by educators for all competencies in this category. The competency "assess student performance of manipulative skills and abilities" received the highest response (35.9 percent) in the "highly competent" level, with a mean value of 3.90. Overall, however, the mean value for each of the three instructional evaluation competencies presently held by teachers was 3.62, which is near the lower end of the "above average" competency range.

Information in Table 13 shows the levels of competencies in instructional evaluation that was perceived by educators to be needed by the agricultural teachers in the future. On the whole, the results reveal that the educators perceived higher levels of competencies will be needed by the agricultural teachers in the future. This was indicated

TABLE 12

RESPONDENTS' PERCEIVED LEVELS OF PRESENT COMPETENCY
IN INSTRUCTIONAL EVALUATION

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Establish criteria for student performance	0	8.2	28.3	29.9	33.7	100.0	3.89	Above Average
Access student performance of manipulative skills and abilities	1.6	5.4	30.4	26.6	35.9	100.0	3.90	Above Average
Evaluate instructional effectiveness	1.6	7.6	26.6	28.8	35.3	100.0	3.89	Above Average
Total Group Mean Value							3.89	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

TABLE 13

RESPONDENTS' PERCEIVED LEVELS OF FUTURE-NEEDED COMPETENCY IN INSTRUCTIONAL EVALUATION

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Establish criteria for student performance	0	2.2	4.9	33.7	59.2	100.0	4.50	Highly Competent
Access student performance of manipulative skills and abilities	0.5	0	8.7	33.7	57.1	100.0	4.47	Above Average
Evaluate instructional effectiveness	0	0	7.6	35.9	56.5	100.0	4.49	Above Average
Total Group Mean Value							4.49	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

by the fact that over 50 percent of the respondents rated all three competency items within the "highly competent" range. Furthermore, all of the competency items received more than a 4.0 mean value. The total group mean value for all the competency items within this category was 4.49, which was on the top end of the "above average" competency range. It was also noted that less than three percent of the educators responded to competency levels "below average."

Departmental Management

The next competency area studied was departmental management. Five competency items were included in this category. Information in Table 14 shows the perceptions of the educators concerning the levels of presently held competencies in departmental management. In was revealed that more educators perceived the level of competencies in this category as "average." The two exceptions being "provided healthy and safe learning environment" and "organize and arrange classroom and laboratory facilities" which were responded to most frequently in the "high competent" range registering 42.5 percent and 38.3 percent respectively. The mean value was the lowest for "develop and implement a statement of departmental policy," which was 3.36. The total group mean value for all competencies in this category was 3.74, which was on the low end of the "above average" range.

The information in Table 15 reflects the educators' perceived levels of competencies needed in the future in the departmental management competency category. It was indicated that a higher percentage of educators rated "above average" all but two of the competencies in this category. The two exceptions being "provide healthy and safe

TABLE 14

RESPONDENTS' PERCEIVED LEVELS OF PRESENT COMPETENCY IN DEPARTMENTAL MANAGEMENT

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Develop and implement a statement of departmental policy	2.8	11.7	43.3	31.7	10.6	100.0	3.36	Average
Determine and budget instructional resource needs	1.7	3.9	46.0	34.4	20.0	100.0	3.67	Above Average
Organize and maintain filing system	2.2	10.0	38.9	33.9	15.0	100.0	3.49	Average
Provide healthy and safe learning environment	0.6	0.6	6.1	26.1	66.7	100.0	4.58	Highly Competent
Organize and manage classroom and laboratory facilities	0	3.3	24.4	33.9	38.3	100.0	4.07	Above Average
Total Group Mean Value							3.74	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

TABLE 15

RESPONDENTS' PERCEIVED LEVELS OF FUTURE-NEEDED COMPETENCY IN DEPARTMENTAL MANAGEMENT

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Develop and implement a statement of departmental policy	0.6	5.0	24.4	47.8	22.2	100.0	3.86	Above Average
Determine and budget instructional resource needs	1.1	1.1	17.2	42.2	38.3	100.0	4.16	Above Average
Organize and maintain filing system	1.7	3.4	29.8	37.6	27.5	100.0	3.86	Above Average
Provide healthy and safe learning environment	0.6	0.6	6.1	26.1	66.7	100.0	4.58	Highly Competent
Organize and manage classroom and laboratory facilities	0	1.1	6.1	31.7	61.1	100.0	4.53	Highly Competent
Total Group Mean Value							4.20	Highly Competent

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

learning environment" and "on-going and manage classroom and laboratory facilities" which were rated "highly competent." These two competencies received 66.7 percent and 61.1 percent respectively. The mean value for "provide healthy and safe learning environment" was the highest at 4.58. The total group mean value for teacher education competencies needed in the future in departmental management category was 4.20, which is in the "above average" for this competency category.

Guidance

The next category of competencies studied was guidance. Three competency items were included in this category. Information presented in Table 16 shows educators' perceived levels of present competencies in guidance. It was revealed that all competencies in the guidance category were rated at the "above average" level of competency. It was also noted that there were no competency items being responded to which was rated either very low or very high on competency level. The mean value for each competency was very close to each other. The total group mean value for all the competency items within this category was 3.70, which was on the low end of the "above average" range.

Information presented in Table 17 reflects educators' perceived levels of guidance competencies needed in the future. Two competency items "develop and maintain liaison with student guidance personnel" and "providing information and assist students in securing employment on further education" both recorded high percentages of responses in the "highly competent" level. The mean values for these two competencies were 4.41 and 4.32, respectively. The other competency item "assess students' performance and

TABLE 16

RESPONDENTS' PERCEIVED LEVELS OF PRESENT COMPETENCY IN GUIDANCE

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Develop and maintain liaison with school guidance personnel	1.7	15.6	26.7	35.6	20.6	100.0	3.58	Above Average
Assess students' performance and make advisory recommendation	0.6	6.7	32.8	41.7	18.3	100.0	3.71	Above Average
Provide information and assist students in securing employment or further education	0.6	6.1	27.2	44.4	21.7	100.0	3.81	Above Average
Total Group Mean Value							3.70	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

TABLE 17

PERCEIVED LEVELS OF FUTURE-NEEDED COMPETENCY IN GUIDANCE

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Develop and maintain liaison with school guidance personnel	0	0	12.3	34.6	53.1	100.0	4.41	Above Average
Assess students' performance and make advisory recommendation	0	0.6	12.8	46.9	39.7	100.0	4.26	Above Average
Provide information and assist students in securing employment or further education	0.6	2.2	10.7	38.2	48.3	100.0	4.32	Above Average
Total Group Mean Value							4.33	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

make advisory recommendations" recorded the highest response in the "above average" level of competency. The mean value for this competency item was 4.26. The total group mean value for all the competencies in this category was 4.33, which was on the high side of the "above average" range. It was also noted that less than three percent of the responses were recorded in the "minimal" and "below average" ranges.

School-Community Relations

The next category of competencies studied was school community relations. Three competency items were included in this category. Information presented in Table 18 shows educators' perceived levels of present competencies in school community relations. It was found that most educators responded highly in the "average" and "above average" levels for all the competencies in this category. However, when the mean values were considered, the educators perceived all competencies in this category to be of "above average" level. The total group mean value for all the competencies in this category was 3.67, which was on the low end of the "above average" range.

Information presented in Table 19 contains educators' perceived levels of competencies in school and community relations needed in the future. It was found that the majority of educators perceived all competencies in this category to be within the "above average" and the "highly competent" level. The competency items"publicize the agricultural education program through leaflets, newspapers, electronic media, and public events" and "maintain liaison with state and local education community and employment agencies" both were responded with 53.3 percent and 41.3 percent, respectively, in the "highly competent" level. The mean values for both the competencies were 4.39 and 4.20

TABLE 18

RESPONDENTS' PERCEIVED LEVELS OF PRESENT COMPETENCY IN COMMUNITY RELATIONS

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Develop a plan for school community relations	3.3	8.3	40.6	28.9	18.9	100.0	3.52	Above Average
Publicize the agriculture, education program through newspapers, electronic media, and public events	2.2	7.8	28.9	41.7	19.4	100.0	3.68	Above Average
Maintain liaison with state and local education community and employment agencies	0.6	9.5	30.7	46.2	19.0	100.0	3.68	Above Average
Total Group Mean Value							3.63	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

TABLE 19

RESPONDENTS' PERCEIVED LEVELS OF FUTURE-NEEDED COMPETENCY IN COMMUNITY RELATIONS

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Develop a plan for school community relations	1.1	1.7	19.0	40.8	37.4	100.0	4.12	Above Average
Publicize the agriculture education program through newspapers, electronic media, and public events	0	2.8	8.3	35.6	53.3	100.0	4.39	Above Average
Maintain liaison with state and local education community and employment agencies	0	3.9	13.4	41.3	41.3	100.0	4.20	Above Average
Total Group Mean Value							4.24	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

respectively. The remaining competency "develop and plan for school community relations" was received with 40.8 percent response value which was in the "above average" level of competency. This competency had a 4.12 mean value. The total group mean value for all the competencies in the school community relations category was 4.24, which was on the high side of the "above average" competency range.

National FFA Organization

The next category of competency studied was National FFA Organization. Five different competency items were administered in this category. Information in Table 20 shows educators' perceived levels of education competencies presently held by agricultural education teachers. It was revealed that all the competency items, except one, recorded higher responses in the "above average" level of competency. The one exception, "evaluate the local FFA Chapter" recorded more responses in the "average" level of competency. The competency item "supervise student in the organization and planning of FFA activities" recorded the highest response (33.3 percent) among other competency items in the "highly competent" level. The mean value for this particular competency was 4.07. On the other side of the scale, the competency "evaluate the local FFA chapter" recorded the highest response of 9.4 percent among other competency items in the "below average" levels; its mean value was only 3.61, the lowest among all competencies within this category. The total group mean value for all present competencies in the National FFA Organization category was 3.82, which is about mid-way in the "above average" range.

TABLE 20

RESPONDENTS' PERCEIVED LEVELS OF PRESENT COMPETENCY IN NATIONAL FFA ORGANIZATION

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Publicize and attract prospective members of FFA	0.6	5.0	28.3	41.1	25.0	100.0	3.85	Above Average
Supervise students in the organization and planning of FFA activities	0	3.3	20.0	43.3	33.3	100.0	4.07	Above Average
Assist students in financial planning and management	1.1	7.2	32.8	41.7	17.2	100.0	3.67	Above Average
Train teams for participation in shows and leadership contests	0.6	1.7	27.9	46.9	22.9	100.0	3.90	Above Average
Evaluate the local FFA chapter	1.1	9.4	36.7	32.8	20.0	100.0	3.61	Above Average
Total Group Mean Value							3.82	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

Information presented in Table 21 shows levels of competencies in the National FFA Organization that are needed in the future. It was indicated that higher responses were recorded by all competency items in the two higher levels: the "above average" and the "highly competent" levels. The most well received competency in the "highly competent" level was that of "supervise student in the organization and planning of FFA activities" with a response rate of 45.0 percent. Its mean was 4.22, the highest value within this competency category. On the lower levels of competency, the item "train teams for participation in shows and leadership contests" recorded a high response (27.9 percent) in the "average" level of competency; its mean value was only 3.59, the lowest among competency values in this category. The total group mean value for all future needed competencies in the National FFA Organization was 4.03, which is mid-way within the "above average" range.

Adult Education Program

The next category of competencies studied was the adult education program. Three competency items were included in this study. Information in Table 22 shows the educators' perceived levels of present competencies in the adult education program. It was revealed that all competency items recorded their highest level of responses in the "average" range of competency. On the higher scale, the competency item "utilize specialists and resource persons in the education program" were responded to with 17.8 percent in the "above average" level;' its mean value was 2.80. On the slightly lower side of the scale, the competency "organize demonstration, field-days, and tours" recorded the

TABLE 21

RESPONDENTS' PERCEIVED LEVELS OF FUTURE-NEEDED COMPETENCY IN NATIONAL FFA ORGANIZATION

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Publicize and attract prospective members of FFA	1.7	3.9	12.2	38.9	43.3	100.0	4.18	Above Average
Supervise students in the organization and planning of FFA activities	1.1	3.9	11.7	38.3	45.0	100.0	4.22	Above Average
Assist students in financial planning and management	0	2.8	15.0	45.0	37.2	100.0	4.17	Above Average
Train teams for participation in shows and leadership contests	3.9	11.7	27.9	34.1	22.3	100.0	3.59	Above Average
Evaluate the local FFA chapter	0	6.1	20.6	41.1	32.2	100.0	3.99	Above Average
Total Group Mean Value							4.03	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

TABLE 22

RESPONDENTS' PERCEIVED LEVELS OF PRESENT COMPETENCY IN ADULT EDUCATION PROGRAM

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Plan an annual program of instruction for adults	18.4	25.9	37.8	13.5	4.3	100.0	2.60	Average
Utilize specialists and resource persons in the education program	15.1	22.7	36.8	17.8	7.6	100.0	2.80	Average
Organize demonstration, field-days and tours	14.6	27.6	37.8	14.1	5.9	100.0	2.69	Average
Total Group Mean Value							2.70	Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

highest responses (27.6 percent) among other competencies in the "below average" level. Its mean value was only 2.69. On the lowest end of the scale, the competency "plan an annual program of instruction for adults" recorded the highest responses (18.4 percent) among other competencies in the "minimal" level. Its mean value was only 2.60, the lowest among the competencies in this category. The total group mean for all the competencies presently held by teachers in the adult education program was a low 2.70, which was on the low end of the "average" competency range.

Information in Table 23 reflects the educator's perceived levels of future needed competencies in the adult education program. It was found that the majority of educators perceived all competency items needed in the future to be of either "average" or "above average" level of competency. On the higher scale, the competency "utilize specialists and resource persons in the education program" recorded the highest responses (18.4 percent) in the "highly competent" level. The mean value for this competency was 3.31, the highest among other competencies within this category. On the slightly lower scale, the competency "organize demonstration, field-days, and tours" recorded a response of 31.9 percent in the "average" levels; its mean value was 3.07, the lowest among all competencies within this category. The total group mean value for all competencies needed in the future in the adult education program was a low 3.17, which was mid-way in the "average" competency range.

Supervised Agricultural Experience (SAE)

The next category of competencies studied was the Supervised Agricultural Experience (SAE). Four competencies were included in this category. Information

TABLE 23

RESPONDENTS' PERCEIVED LEVELS OF FUTURE-NEEDED COMPETENCY IN ADULT EDUCATION PROGRAM

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Plan an annual program of instruction for adults	14.1	16.3	28.3	26.1	15.2	100.0	3.12	Average
Utilize specialists and resource persons in the education program	12.4	13.0	23.8	32.4	18.4	100.0	3.31	Average
Organize demonstration, field-days and tours	14.1	15.1	31.9	27.6	11.4	100.0	3.07	Average
Total Group Mean Value							3.17	Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

presented in Table 24 shows the educators' perceived levels of present competencies in the Supervised Agricultural Experience (SAE). It was indicated that all the competency items except one, recorded higher responses in the "above average" level competency. The competency "assist and supervise students in selecting and conducting SAE programs" recorded the highest response (34.1 percent) among other competencies in the "above average" level of competency. The mean value for this particular competency was 3.81, the highest among other competencies within this category. On the lower scale, the competency "prepare students to become involved in advanced technology development" recorded the highest response (13.6 percent) among other competencies in the "below average" level. Its mean value was 3.42, the lowest in this category. The total group mean value for all competencies in the Supervised Agricultural Experience (SAE) category was 3.66, which was on the low end of the "above average" range.

Information presented in Table 25 reflects the educators' perceived levels of competencies in the Supervised Agricultural Experience (SAE) needed in the future. It was found that a vast majority of the educators' responded highly in all competencies rating them at the "highly competent" level. The competency "prepare students to become involved in advanced technology development" recorded the highest response (61.4 percent) in the "highly competent" level; its mean value was 4.50, the highest among all competencies in this category. On the slightly lower scale, the competency "plan and develop SAE" recorded a response of 7.0 percent in the "below average" competency level; its mean value was 4.16, the lowest among all competencies in this category. The total group mean value for all competencies in the Supervised Agricultural Experience (SAE) category was 4.26, which was about mid-way in the "above average" range.

TABLE 24

RESPONDENTS' PERCEIVED LEVELS OF PRESENT COMPETENCY
IN SUPERVISED AGRICULTURAL EXPERIENCE

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Plan and develop SAE	0.5	8.1	31.2	31.7	28.5	100.0	3.80	Above Average
Assist and supervise students in selecting and conducting SAE program	0.5	10.3	25.9	34.1	29.2	100.0	3.81	Above Average
Assist students in developing comprehensive management skills	1.6	11.4	32.4	33.5	21.1	100.0	3.61	Above Average
Prepare students to become involved in advanced technology development	6.0	13.6	33.2	26.6	20.7	100.0	3.42	Average
Total Group Mean Value							3.66	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

TABLE 25

RESPONDENTS' PERCEIVED LEVELS OF FUTURE-NEEDED COMPETENCY IN SUPERVISED AGRICULTURAL EXPERIENCE

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Plan and develop SAE	0.5	7.0	13.4	34.4	44.6	100.0	4.16	Above Average
Assist and supervise students in selecting and conducting SAE program	1.1	5.4	14.6	33.5	45.4	100.0	4.17	Above Average
Assist students in developing comprehensive management skills	0	2.2	15.1	40.0	42.7	100.0	4.23	Above Average
Prepare students to become involved in advanced technology development	1.1	1.1	6.5	29.9	61.4	100.0	4.50	Highly Competent
Total Group Mean Value							4.26	Highly Competent

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

Teacher Professionalism

The next category of competencies studied was teacher professionalism. Three competency items were included in this category. Information presented in Table 26 reflects the educators' perceived levels of present competencies in teacher professionalism. It was revealed that more educators responded to "above average" and "highly competent" levels for all competencies in this category. The competency "maintain a friendly, cooperative and helpful relationship with faculty and staff" was responded to with 38.7 percent in the "highly competent" level. Its mean value was 4.09, the highest among all competencies in this category. On the slightly lower scale, the competency "exhibit leadership by sharing knowledge and techniques with other faculty" recorded a response of 31.4 percent in the "average" category, the highest response among all competencies in this level. The mean value for this competency was 3.84, the lowest value within this category. The group mean value for all competencies in the teacher professionalism category was 3.97, which was about mid-way in the "above average" range.

Information presented in Table 27 reflects educators' perceived levels of competencies in teacher professionalism needed in the future. It was indicated that a majority of educators responded to "highly competent" for each of the three competency categories. The competency "demonstrate evidence of professional demeanor, scholarship, and behavior" recorded the highest percentage of responses (67.0 percent) in the "highly competent" level. Its mean value was 4.62, the highest value within this competency category. The next highest competency "maintain a friendly, cooperative and helpful relationship with faculty and staff" recorded 62.9 percent responses in the "highly

TABLE 26

RESPONDENTS' PERCEIVED LEVELS OF PRESENT COMPETENCY
IN TEACHER PROFESSIONALISM

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Maintain a friendly, cooperative and helpful relationship with faculty and staff	0	4.3	21.5	35.5	38.7	100.0	4.09	Above Average
Exhibit leadership by sharing knowledge and techniques with other faculty	1.1	4.9	31.4	34.6	28.1	100.0	3.84	Above Average
Demonstrate evidence of professional demeanor, scholarship, and behavior	1.6	9.7	20.0	31.4	37.3	100.0	3.93	Above Average
Total Group Mean Value							3.96	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

TABLE 27

RESPONDENTS' PERCEIVED LEVELS OF FUTURE-NEEDED COMPETENCY IN TEACHER PROFESSIONALISM

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
Maintain a friendly, cooperative and helpful relationship with faculty and staff	0	0	9.1	28.0	62.9	100.0	4.54	Highly Competent
Exhibit leadership by sharing knowledge and techniques with other faculty	0	0	11.9	36.8	51.4	100.0	4.40	Above Average
Demonstrate evidence of professional demeanor, scholarship, and behavior	0	0	4.9	28.1	67.0	100.0	4.62	Highly Competent
Total Group Mean Value							4.52	Highly Competent

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

competent" level. Its mean value was 4.54. There were no responses in the "minimal" or "below average" competency level. The total group mean for all needed competencies in this category was 4.52, which was on the lower end of the "highly competent" range.

Agricultural and Technological Development

The last category of competencies studied in this section was agricultural and technical development. Six competency items were included in this category. Information presented in Table 28 reflects the educators' perceived levels of present instructional competencies in agricultural and technological development. It was revealed that all the highest responses in each competency were checked in the "average" level of competency. The instructional competency in "information technology" recorded the highest response (30.1 percent), among all other competency items, in the "above average" level. Its mean value was 3.16. On the lower side of the scale, the instructional competency in "instructional competition in food and fiber markets" recorded a higher response (10.8 percent) in the "minimal" level of competency. The mean for this competency was 2.95, the lowest in this category. The total group mean value for all the competencies in this category was 3.12, which was mid-way in the "average" range.

Information presented in Table 29 reflects the educators' perceived levels of instructional competencies in agricultural and technological development needed in the future. It was found that a majority of educators responded to all but two competency items, in the "highly competent" level. The instructional competency in "information technology " was recorded the highest response (53.8 percent) in the "highly competent" level. The mean value for this competency category. On the slightly lower scale, the

TABLE 28

RESPONDENTS' PERCEIVED LEVELS OF PRESENT COMPETENCY IN AGRICULTURAL AND TECHNOLOGICAL DEVELOPMENT

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
International economy or global agriculture	9.1	22.0	39.8	22.6	6.5	100.0	2.95	Average
Marketing, finance and trading skills	4.3	21.1	36.2	29.2	9.2	100.0	3.18	Average
Biotechnology and genetic engineering	8.1	24.7	34.9	26.9	5.4	100.0	2.97	Average
International competition in food and fiber market	10.8	21.5	37.1	23.7	7.0	100.0	2.95	Average
Managerial skills	3.3	8.2	42.9	27.7	17.9	100.0	3.49	Average
Information technology	5.4	19.4	37.1	30.1	8.1	100.0	3.16	Average
Total Group Mean Value							3.12	Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

TABLE 29

RESPONDENTS' PERCEIVED LEVELS OF FUTURE-NEEDED COMPETENCY IN AGRICULTURAL AND TECHNOLOGICAL DEVELOPMENT

Competency	Percentage of Responses by Perceived Levels of Competence							
	Minimal	Below Average	Average	Above Average	Highly Competent	Total Percent	Mean Value*	Descriptor
International economy or global agriculture	0.5	1.1	14.5	36.0	47.8	100.0	4.30	Above Average
Marketing, finance and trading skills	0	1.6	13.5	43.8	41.1	100.0	4.24	Above Average
Biotechnology and genetic engineering	1.6	1.1	14.0	42.5	40.9	100.0	4.20	Above Average
International competition in food and fiber market	0.5	0	17.2	39.8	42.5	100.0	4.24	Above Average
Managerial skills	0	0	9.8	41.3	48.9	100.0	4.39	Above Average
Information technology	0	1.1	10.2	34.9	53.8	100.0	4.41	Above Average
Total Group Mean Value							4.30	Above Average

*Minimal = 1.00 to 1.49
Below Average = 1.50 to 2.49
Average = 2.50 to 3.49
Above Average = 3.50 to 4.49
Highly Competent = 4.50 to 5.00

instructional competency "biotechnology and genetic engineering" recorded a high percentage of responses (14.0 percent) in the "average" level of competency. The mean value for this competency was 4.20, the lowest in this competency category. The total group mean for all instructional competencies in this category was 4.30, which was close to the top of the "above average" range.

Comparison of Perceptions of Future Needed Competencies According to Years in Current Position of Teacher Educators

The findings described in this section were in accordance with the fourth objective of the study which was to determine the future educational competencies as perceived by the agricultural education teacher educators based on their number of years in their current position. The data presented were concerned with means related to levels of competencies in different categories of educational competencies as rated by educators of different years in their current position. The years in current position were classified into four groups: 0-5 years; 6-10 years; 11-15 years; and 16 plus years. There were 186 educators who responded to the questionnaire.

Planning, Development and Evaluation of Local Programs

Five educational competencies were included in this category. Data in Table 30 reflect the mean values of levels of competencies as rated by educators based on their years in their current position. It was found that all groups of educators rated the future

TABLE 30

SUMMARY OF FINDINGS CONCERNING RESPONDENTS' PERCEIVED LEVELS OF FUTURE COMPETENCIES ACCORDING TO YEARS IN CURRENT POSITION

Competency Category	Years in Current Position				
	0-5	6-10	11-15	16 Plus	F Value
Planning, Development & Evaluation of Local Programs	4.35	4.29	4.35	4.20	.92
Instructional Planning	4.46	4.39	4.52	4.42	.35
Teaching Methods & Techniques	4.64	4.46	4.67	4.52	2.19
Instructional Evaluation	4.56	4.41	4.52	4.46	.58
Departmental Management	4.27	4.14	4.12	4.21	.58
Guidance	4.42	4.32	4.33	4.25	.76
School-Community Relations	4.33	4.28	4.16	4.17	.70
National FFA Organization	3.96	4.00	4.07	4.10	.44
Adult Education Program	3.00	3.29	3.31	3.16	.65
Supervised Agricultural Experience (SAE)	4.35	4.21	4.37	4.17	.94
Teacher Professionalism	4.63	4.35	4.56	4.52	2.15
Agricultural & Technological Development	4.37	4.29	4.33	4.23	.64

needed competencies within the "above average" level. The mean responses ranged from 4.20 (rated by 16 plus year group) to 4.35 (rated by both the 0-5 and the 11-15 year group). The F-value was .92, indicating that there were no significant differences (at the .05 level) in the responses by educators according to years in current position.

Instructional Planning

Three competency items were included in this category. Data presented in Table 30 reflects the mean values of levels of competencies as rated by educators based on their years in their current position. The mean values obtained ranged from 4.20 to 4.35. This indicated that educators from all groups perceived educational competencies needed in the future in instructional evaluation to be of "above average" level. The F-value derived from the analysis was .35, indicating that there were no significant differences (at the .05 level) in the response by educators from all different years in current position.

Teaching Methods and Techniques

The next competency category studied was teaching methods and techniques. Eight competency items were included in this category. Data presented in Table 30 reflect the response of educators of different years in current position to the competency levels needed in the future. It was indicated that all educators from all groups of years in current position responded to the competencies in this category with"highly competent", except for one group (6-10 years). The mean value ranged from the lowest of 4.46 responded by educators with 6-10 years to 4.67 responded by educators with 11-15 years.

The F-value was 2.19 indicating that there were no significant differences (at the .05 level) in the responses among the years in their current position.

Instructional Evaluation

The next competency category studied was instructional evaluation. Three competency items were included in this category. Data in Table 30 reflect the mean responses of the educators based on years in current position. It was found that educators from all groups of years in current position perceived needed future competencies in instructional evaluation to be of either the "above average" or the "highly competent" level. The mean responses ranged from 4.41 by the 6-10 year group to 4.56 by the 11-15 year group. The F-value derived from the analysis was .58, indicating that there were no significant differences (at the .05 level) in the ratings made by educators of different years of experience in their current position.

Departmental Management

The next competency category studied was departmental management. Five competency items were included in this category. Date in Table 30 reflect the perceptions of educators by years in current position, towards departmental management competencies needed in the future. It was revealed that all groups of educators perceived needed competencies to be of "above average" level. The mean responses for the whole group ranged from 4.12 to 4.27. The F-value obtained was .58, which indicates that there were no significant differences (at the .05 level) among the responses.

Guidance

Three competency items were included in the guidance competency category. Data in Table 30 reflect the perceptions of educators, by years in current position, on the future needed competencies in the guidance category. It was found that educators from all groups of years in current position perceived all needed competencies to be of the "above average" level. The mean responses ranged from 4.25 by the 16 plus year group to 4.42 by the 0-5 year group. The F-value derived from this analysis was .76, indicating that there were no significant differences (at the.05 level) in the responses of the educators from all groups identified by years in current position.

School-Community Relations

The next competency category studied was school-community relations. Three competency items were included in this category. Data in Table 30 reflect the mean values of these competency levels as perceived by the educators of different groups based on years in current position. It was revealed that educators rated "above average" level to be the needed competencies in the future. The mean response ranged from 4.16 (rated by the 11-15 years group) to 4.33 (rated by the 0-5 year group). The F-value derived from this particular analysis was.70. This indicates that there were no significant differences (at the.05 level) in the responses made by educators based on their years in current position.

National FFA Organization

The next competency category studied was the National FFA Organization. Five competency items were included in the study. Data in Table 30 reflect a summary of mean responses on future needed competencies as perceived by educators of different years at current position. It was found that educators rated competencies needed in the future to be of "above average" level. The mean responses ranged from 3.96 (rated by the 0-5 year group) to a 4.10 (rated by the 16 plus year group). The F-value derived from this analysis was .44, indicating that there were no significant differences (at the .05 level) in the responses made by the educators based on years in current position.

Adult Education Program

The next category of educational competencies studied was the adult education program. Five competency items were included in this category. Data in Table 30 reflect a summary of mean responses on future needed competencies in the adult education program as perceived by educators of different groups based on years in their current position. It was found that all educators perceived these needed future competencies as "average" level. The mean responses ranged from a low of 3.00, rated by the 0-5 year group, to 3.31, rated by the 11-15 year group. The F-value derived from this analysis was .65, indicating that there were no significant differences (at the 0.5 level) in the responses made by educators based on years in their current position.

Supervised Agricultural Experience (SAE)

The next category of educational competencies studied was the Supervised Agricultural Experience (SAE). Four competency items were included in this category. Data in Table 30 contain a summary of mean responses in future needed competencies as perceived by educators based on years in their current position. It was revealed that educators from all groups rated all competencies in this category to be of "above average" level. The mean responses ranged from 4.17 rated by the 16 plus year group to 4.37 rated by the 11-15 year group. The F-value derived from this analysis was .94. This indicated that there were no significant differences (at the .05 level) in the responses by all educators based on years in their current position.

Teacher Professionalism

The next category of educational competencies studied was teacher professionalism. Three competency items were included in this category. Data presented in Table 30 reflect a summary of mean responses in teacher professionalism competencies as perceived by educators of different groups based on years in their current position. It was found that educators of all groups, except one, perceived needed future competencies to be of "highly competent" level. The mean responses ranged from 4.35 rated by the 6-10 year group to 4.63 rated by the 0-5 year group. The F-value derived from this analysis was 2.15, indicating that there were no significant differences (at the .05 level) in the responses by educators of all groups.

Agricultural and Technical Development

The last competency category studied in this section was competency instructional delivery in agricultural and technical development. Six competency items were included in this category. Date in Table 30 reflect a summary of mean responses of needed instructional competencies in agricultural and technical development by educators based on years in their current position. It was revealed that educators from all groups perceived the instructional competencies in this category to be of "above average" level. The mean responses ranged from 4.23 rated by the 16 plus year group to 4.37 as rated by the 0-5 year group. The F-value derived from this analysis was .64, indicating that there were no significant differences (at the.05 level) in the responses by educators based on years in current position.

Comments Expressed by the Respondents

This section was designed to obtain both qualitative and quantitative comments expressed by the respondents. All respondents were requested to name the one professional competency that they thought was the most important and to also name the one professional competency that they felt needed the most improvement by the secondary agricultural education teachers.

Information presented in Table 31 reflects the opinions of the teacher educators concerning the most important professional competency for a secondary agricultural education teacher to possess. Of the teacher educators who responded to the questionnaire; 51 perceived "teaching methods and techniques" to be the most important,

TABLE 31

SUMMARY OF RESPONDENTS' PERCEPTIONS CONCERNING THE COMPETENCY DEEMED MOST IMPORTANT

Competencies N = 186	Frequency N
Teaching Methods and Techniques	51
Teacher Professionalism	41
Instructional Planning	29
Agricultural and Technological Development	15
Planning, Development and Evaluation of Local Programs	13
Departmental Management	11
School-Community Relations	8
Supervised Agricultural Experience (SAE) Program	6
Guidance	4
Instructional Evaluation	3
National FFA Organization	1
Adult Education Program	0
Total Number Responded (Percentage)	182 (97.9)

41 perceived "teacher professionalism" to be most important; 29 perceived "instructional planning" to be most important; 15 perceived "agricultural and technological development" to be most important; 13 perceived "planning, development, and evaluation of local programs" to be most important; 11 perceived "departmental management" to be most important; eight perceived "school-community relations" to be most important; six perceived "Supervised Agricultural Experience programs" to be most important; four perceived "guidance" to be most important' three perceived"instructional evaluation" to be most important; one perceived "National FFA Organization" to be most important; and none perceived "adult education programs" to be most important. There were 182 responses (97.9 percent) to this question.

Information presented in Table 32 reflects the perceptions of the teacher educators concerning the one professional competency in need of the most improvement. Of the teacher educators who responded to the questionnaire; 44 perceived "teacher professionalism" to need the most improvement, 34 perceived "agricultural and technological development" to need the most improvement; 30 perceived "teaching methods and techniques" to need the most improvement; 17 perceived "instructional planning" to need the most improvement; 16 perceived "supervised Agricultural Experience programs" to need the most improvement; 13 perceived "planning, development, and evaluation of local programs" to need the most improvement; 12 perceived "departmental management" to need the most improvement; five perceived "school-community relations" to need the most improvement; three perceived "guidance" to need the most improvement; two perceived "instructional evaluation" to need the most Improvement; two perceived "National FFA Organization" to need the most

TABLE 32

SUMMARY OF RESPONDENTS' PERCEPTIONS CONCERNING THE PROFESSIONAL COMPETENCY IN NEED OF THE MOST IMPROVEMENT

Competencies N = 186	Frequency N
Teacher Professionalism	44
Agricultural and Technological Development	34
Teaching Methods and Techniques	30
Instructional Planning	17
Supervised Agricultural Experience (SAE) Program	16
Planning, Development and Evaluation of Local Programs	13
Departmental Management	12
School-Community Relations	5
Guidance	3
Instructional Evaluation	2
National FFA Organization	2
Adult Education Program	2
Total Number Responded (Percentage)	180 (96.8)

improvement; and, two perceived "adult education programs" to need the most improvement. There were 180 responses (96.8 percent) to this question.

Additionally, the teacher educators were asked to name any additional competencies which the perceived should have been included in the study. Data presented in Table 33 reflects the perceptions of the 98 (52.7 percent) who responded to this question. Of the teacher educators who responded to the questionnaire; 16 listed"agricultural skills and knowledge;" 14 listed "technology in instruction:" 13 listed "teacher professionalism;" 11 listed "ability to adjust to change;" eight listed "integrate ag to other disciplines;" seven listed "assist students in career planning;" six listed"leadership skills;" six listed "human relation skills;" three listed "manage student behavior;" three listed "SAEP competencies;" three listed "posses vision;" two listed"problem-solving skills;" two listed "accountability;" two listed "time management;" one listed "curriculum development;" and one listed "bi-lingual/multi-lingual abilities." The comments of the respondents are listed in Appendix C.

TABLE 33

SUMMARY OF RESPONDENTS' PERCEPTIONS CONCERNING ADDITIONAL COMPETENCIES NEEDED

Competencies N = 186	Frequency N
Agricultural Skills and Knowledge	16
Technology in Instruction	14
Teacher Professionalism	13
Ability to Adjust to Change	11
Integrate Ag to other Disciplines	8
Assist Students in Career Planning	7
Leadership Skills	6
Human Relation Skills	6
Manage Student Behavior	3
SAEP Competencies	3
Possess Vision	3
Problem-Solving Skills	2
Accountability	2
Time Management	2
Curriculum Development	1
Bi-lingual/Multi-lingual Abilities	1
Total Number Responded (Percentage)	98 (52.7)

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The purpose of this chapter was to present a concise summary of the following topics: statement of the problem; purpose of the study; objectives of the study; scope of the study; and, major findings of the research. Also, through a detailed inspection of these topics, conclusions and recommendations were presented on the analysis of the data.

Statement of the Problem

It was found that several studies have been conducted on professional technical competencies in the subject areas of vocational secondary education, but national consensus has yet to be obtained regarding the professional competencies essential for "vocational" agricultural education teachers. Therefore, further studies on competencies relating to the instructional delivery of the basic agricultural education components, such as, Classroom and Laboratory Instruction, National FFA Organization, Supervised Agricultural Experiences, and Young/Adult Farmer Education programs, are needed. These components have been traditionally regarded as the integral parts of "vocational" agricultural education.

Purpose of the Study

The central purpose of this study was to determine the selected professional competencies needed by agricultural education teachers in facing the instructional delivery challenges of the future. These selected professional competencies were determined by obtaining the perceptions of the agricultural teacher educators.

Objectives of the Study

In order to accomplish the above stated purpose, the following objectives were set forth.

1. To determine the mean age, educational level, length of time in the teaching profession, and the length of time in current position of the teacher educators surveyed for this study.

2. To determine agricultural education teachers' present levels of selected professional competencies as perceived by the teacher educators.

3. To determine the future levels of selected professional competencies needed by agricultural education teachers as perceived by the teacher educators.

4. To compare the perceptions of the teacher educators based on years in current position concerning the levels of professional competencies needed by agricultural education teachers in the future.

Scope of the Study

The scope of this study included all of the agricultural teacher educators located within the United States and Puerto Rico who have been actively involved in teacher preparation within the last five years. Of the 243 agricultural teacher educators included in this study, 186 (76.5 percent) responded.

For the purpose of this study, a survey instrument in the form of a questionnaire was used. The major part of the questionnaire was a listing of selected education competencies. These competencies were divided into 12 categories. A five-point Likert type scale, with real limits, was established. The data presented were relative to the agricultural education teachers and the agricultural teacher educators for the 1995-96 school year.

Summary of Findings

The findings of the study are presented in both tabular and narrative summaries in the following sections.

Demographic Data of the Respondents

The first objective of this study was to determine the mean age, educational level, length of time in the teaching profession, and the length of time in current position of the teacher educators surveyed. The researcher perceived it to be important that these demographic data be compiled to add credence to three of the assumptions of this study. Those assumptions being: that the teacher educators requested to provide information

needed for the study were, by the nature of their professions and locations when the study was conducted, the most qualified persons to provide such information; that teacher educators are themselves a major factor in determining the effectiveness of the educational programs; and, that the teacher educators were qualified and capable of making judgment concerning the professional competencies needed by a secondary agricultural education teacher.

Information presented in Table 34 summarizes the demographic data collected from the teacher educators. Of the 186 (76.5 percent) teacher educators, who responded to the questionnaire, their mean age was 48.26 years and 177 (95.2 percent) possessed doctoral degrees. The teacher educators were grouped into six groups according to years of experience. It was found that the teacher educators possessing 30 plus years formed the largest group (28.5 percent) and the teacher educators possessing 6-10 years of experience was the smallest group (8.6 percent). The mean years of teaching experience for the teacher educators was 23.90 years. The last demographic variable in which teacher educators were grouped was years in current position. It was found that the teacher educators possessing 16 plus years formed the largest group (33.9 percent) and the teacher educators possessing 11-15 years in their current position was the smallest group (16.1 percent). The mean years in current position for the teacher educators was 12.24 years.

TABLE 34

SUMMARY OF DEMOGRAPHIC DATA CONCERNING RESPONDENTS

Demographic Items	Teacher Educators	Percent
Number of Respondents	186	76.5
Age Groups:		
30-39	30	16.1
40-49	72	38.7
50-59	61	32.8
60 and Above	20	10.8
Non-Respondents	3	1.6
Educational Level:		
Master's Degree	8	4.3
Specialist Degree	1	.5
Doctoral Degree	177	95.2
Non-Respondents	0	0.0
Experience Groups:		
6-10 years	16	8.6
11-15 years	23	12.4
16-20 years	32	17.2
21-25 years	33	17.7
26-30 years	29	15.6
30 plus years	53	28.5
Non-Respondents	0	0.0
Current Position		
0-5 years	51	27.4
6-10 years	42	22.6
11-15 years	30	16.1
16 plus years	63	33.9
Non-Respondents	0	0.0

Findings Concerning Educators' Perceived Levels of Present and Future Needed Education Competencies

The second and third objectives of this study were to determine the education competencies presently held by agricultural teachers and to determine the future levels of education components needed by agricultural teachers. Fifty-one selected educational competencies were included in the study. These competencies were then classified into 12 categories or areas of competencies. A summary of category mean of means for levels of present and future needed competencies is presented in Table 35. The results of the analysis pointed out that, on the whole, the perceived levels of education competencies held by teachers presently was "above average." The average group mean value being 3.68. The "adult education program" competencies were rated to be the lowest with a category mean of only 2.70 ("average"). The highest level of competency presently held was the "instructional planning" category with a mean of 4.06 ("above average").

With regard to future needed competencies, the two categories showing the greatest need were "teaching methods and techniques" and"teacher professionalism" with a category mean of 4.57 and 4.52 respectively. These mean values fall within the "highly competent" levels. The "adult education program" competencies were rated to be the lowest with a category mean of 3.17 ("average"). The average group mean value for the future competencies is 4.24 ("above average").

TABLE 35

SUMMARY OF FINDINGS CONCERNING RESPONDENTS' PERCEIVED LEVELS OF PRESENT AND FUTURE NEEDED EDUCATION COMPETENCIES

	Mean of Means	
Competency Categories	Present Level	Future Level
Planning, Development & Evaluation of Local Programs	3.83	4.28
Instructional Planning	4.06	4.44
Teaching Methods & Techniques	4.05	4.57
Instructional Evaluation	3.89	4.49
Departmental Management	3.74	4.20
Guidance	3.70	4.33
School-Community Relations	3.63	4.24
National FFA Organization	3.82	4.03
Adult Education Program	2.70	3.17
Supervised Agricultural Experinces (SAE)	3.66	4.26
Teacher Professionalism	3.96	4.52
Agricultural & Technological Development	3.12	4.30
Total Groups Mean of Means	3.68	4.24

Findings Concerning Perceptions of Educators, Based on Years in Current Position, on Future Needed Competencies

The fourth objective of this study was to compare the perceptions of the teacher educators based on years of experience in their current positions. These educators were classified into four groups: 0-5 years; 6-10 years; 11-15 years; and 16 plus years. It was found that, in seven out of 12 competency categories, educators with the least years in their current positions perceived higher levels of needed competencies than educators with more years of experience. The two most notable exception competency categories were the "National FFA Organization" and "Adult Education Program." It was also found in an analysis of educator responses, based on years in their current position, that no significant differences existed at the .05 level in all categories of competencies.

Summary of the Top Twenty Education Competencies Needed in the Future

Data presented in Table 36 shows a summary of findings pertaining to teacher educators' perceived levels of future needed competencies. These 20 education competencies were perceived to be the highest levels of needed competencies of the 51 competency items studied. Fourteen of the top 20 education competencies listed had mean value scores at the "highly competent" level. The future needed competency

TABLE 36

SUMMARY OF THE TOP TWENTY FUTURE NEEDED COMPETENCIES AS PERCEIVED BY THE RESPONDENTS

Competencies	Perceived Means of Competency Levels
Motivate students in teaching/learning process	4.77
Apply different methods and techniques of teaching	4.76
Use computer-assisted instruction	4.75
Control student behavior by good rapport	4.64
Demonstrate evidence of professionalism	4.62
Determine needs and interests of students	4.60
Provide healthy and safe learning enviroment	4.58
Use appropriate audo-visual aids	4.57
Develop an annual teaching plan	4.55
Maintain good relatlionship with faculty and staff	4.54
Organize and manage classroom and lab facilities	4.53
Establish criteria for student performance	4.50
Introduce a lesson	4.50
Prepare students to become involved in advanced technology development	4.50
Evaluate instruction activities	4.49
Develop short and long range goals and objectives	4.48
Assess student performance of cognitive skills and abilities	4.47
Summarize a lesson	4.42
Organize and work with an advisory committee	4.42
Information technology	4.41

"motivate students in teaching/learning possess" rated the highest with a mean value of 4.77.

Summary of Findings Concerning Educators' Perceptions of the Most Important Competency and the Competency in Need of the Most Improvement

Information presented in Table 37 summarizes the perceptions of the 186 teacher educators, who responded to the questionnaire, concerning the most important competency for a secondary agricultural education teacher to possess. The teacher educators perceived "teaching methods and techniques" to be most important, followed by "teacher professionalism," "instructional planning," "agricultural and technology development," and finally, "planning, development, and evaluation of local programs."

Information presented in Table 38 summarizes the perceptions of the 186 teacher educators, who responded to the questionnaire; concerning the one competency in need of the most improvement. The teacher educators perceived "teacher professionalism" to be in need of the most improvement, followed by "agricultural and technological development," "teaching methods and techniques;" "instructional planning;" and finally, "Supervised Agricultural Experience."

TABLE 37

SUMMARY OF FINDINGS CONCERNING RESPONDENTS' PERCEPTIONS OF THE MOST IMPORTANT COMPETENCY

Competencies	Responses
Teaching Methods and Techniques	51
Teacher Professionalism	41
Instructional Planning	29
Agricultural and Technological Development	15
Planning, Development and Evaluation of Local Programs	13
All others	33
Total	182
Percentage	(97.9)

TABLE 38

SUMMARY OF FINDINGS CONCERNING RESPONDENTS' PERCEPTIONS OF THE COMPETENCY IN NEED OF THE MOST IMPROVEMENT

Competencies	Responses
Teacher Professionalism	44
Agricultural and Technological Development	34
Teaching Methods and Techniques	30
Instructional Planning	17
Supervised Agricultural Experience	16
All Others	39
Total	180
Percentage	(96.8)

Conclusions of the Study

The conclusions of this study were based on the findings of the study and are presented as follows.

1. Based on the demographic data received from the respondents, it was concluded that the majority of teacher educators are over the age of 40, have doctoral degrees, have been teaching over 16 years, and have been in their current positions for at least ten years. Because of this longevity in current positions, it was concluded that the teacher educators have had an impact on the professional competency levels of the secondary agricultural education teachers.

2. The teacher educators perceived the competency levels of the present secondary agricultural education teachers to be "above average"in all categories except for adult education classes and agricultural and technological developments. It was concluded from this response and the increasing importance of technology that technological competencies in various agricultural specializations will become increasingly more important.

3. Even though teacher educators perceived secondary agricultural education teachers to be "above average" with respect to teacher professionalism and teaching methods and techniques, they perceived the need for the teachers to be even more "highly competent" in these competency areas in the future.

4. Teacher educators regarded education competencies (both present and future needed competencies) in adult education programs as being less important than any other category of competencies. Teacher educator comments indicated that some secondary

agricultural education teachers do not teach adult education classes. Therefore, it was concluded that the priority of adult education programs as a part of secondary agricultural education is very low.

5. It was concluded that teacher educators perceived secondary agricultural education teachers in the future as needing to be people-oriented individuals with an "above average" competency level concerning the guidance of students, maintaining good school-community relations, and in working with students with regard to the National FFA Organization and Supervised Agricultural Experience Programs.

6. In addition, it was concluded from the respondents' perceptions that secondary agricultural education teachers in the future must have an "above average" competency level concerning instructional planning and evaluation, departmental management, and in agricultural and technological developments.

7. Based on the perceptions of teacher educators compared by years in current position it was concluded that there was no difference in perceptions between teacher educators with more years or less years in their current position.

8. Based on the majority of the respondents' open-ended comments it was concluded that professional education competencies of secondary agricultural education teachers must change in order to meet future needs. The comments of the respondents expressed the need to take a more futuristic/visionary approach to secondary agricultural education programs.

9. Finally, it was concluded from the respondents' comments that excellence in classroom and laboratory teaching of an activity based curriculum was the only way secondary agricultural education programs will grow and prosper in the future.

Recommendations

The following recommendations were made based upon the findings of this study.

1. Teacher education programs should place more emphasis upon agricultural and technological developments. This was the one professional competency which educators perceived to have the largest gap between present and future needed competencies.

2. Teacher education programs should place more emphasis upon teacher professionalism. A competent teacher who maintains a high standard of professionalism, would assure continued success in the overall secondary agricultural education program.

3. It is recommended that some of the pre-service and in-service components of teacher education be increased by providing special competency training in human and public relations. Competency in human and public relations is regarded as an important asset to secondary agricultural education teachers.

4. Teacher education programs should continue to place major emphasis on preparing secondary agricultural education teachers to be competent in instructional planning, instructional evaluation and teaching methods and techniques.

Recommendations for Additional Research

The following recommendations are made in regard to additional research.

1. A future study is recommended concerning the need for the adult education program component, in order to determine whether there are needs to emphasize educational competencies in adult education. Alternatively, it is recommended that a

seminar be conducted to determine the viability of this program component, and its contribution to agricultural education in the future.

2. A more comprehensive study should be conducted after reworking the survey instrument. Perhaps a tabla rosa delphi approach would likely produce more innovative results from a futuristic perspective.

3. Future research should be conducted concerning professional competencies by broadening the study from agricultural teacher educators to include a national sample of agricultural education teachers and industry representatives.

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APPENDIXES

APPENDIX A

CORRESPONDENCE

Oklahoma State University

COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES

Department of Agricultural Education
448 Agricultural Hall
Stillwater, Oklahoma 74078-0484
405-744-5129, FAX 405-744-5176

December 15, 1995

(Name of University or College)
(Title of Respondent)
(Address)
(City), (State) (Zip)

Dear Agricultural Teacher Educator:

You and other selected colleagues in the **agricultural education teaching profession** were recently mailed a survey instrument concerning needed agricultural teacher competencies in the near future.

This was an in-depth nationwide study in an effort to determine the present and the future professional competencies needed to be a successful secondary agricultural education teacher. The results of this study should benefit all of us in light of the many changes and the future demands that will be placed on agricultural education.

In responding to this survey, you indicated that you would be interested in receiving a copy of the study findings and conclusions. We hope that these findings and conclusions will help you to prepare agricultural education teachers for success in the future.

Again, **Thank You** for participating in this study!

Sincerely,

Jay L. Smith
Graduate Student

Dr. James P. Key
Professor

Oklahoma State University

COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES

Department of Agricultural Education
448 Agricultural Hall
Stillwater, Oklahoma 74078-0484
405-744-5129, FAX 405-744-5176

August 21, 1995

(Name of University or College)
(Name of Respondent)
(Address)
(City), (State) (Zip)

Dear Agricultural Teacher Educator:

You and other selected colleagues in the **agricultural education teaching** profession were recently mailed a survey instrument concerning needed agricultural teacher competencies in the near future.

Perhaps it has become lost or misplaced? Nevertheless, please find enclosed another survey instrument which we very much would like for you to review, complete, and return to us. Your input is essential to the success of this research effort.

Please fill out the survey instrument and return it in the pre-addressed, stamped envelope by September 1, 1995. If you have already mailed us your response, please disregard this letter.

Your assistance is deeply appreciated. **Thank You!**

Respectfully yours,

Jay L. Smith
Graduate Student

Dr. James P. Key
Professor

Oklahoma State University

COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES

Department of Agricultural Education
448 Agricultural Hall
Stillwater, Oklahoma 74078-0484
405-744-5129, FAX 405-744-5176

July 10, 1995

(Name of University or College)
(Title of Respondent)
(Address)
(City), (State) (Zip Code)

Dear Agricultural Teacher Educator:

We are conducting an in-depth nationwide study in an effort to determine the present and the future professional competencies needed to be a successful secondary agricultural education teacher. The results of this study should benefit all of us in light of the many changes and the future demands that will be placed on agricultural education.

As a **professional agricultural teacher educator**, you have been selected to participate in this study. Please take a few minutes of your time to respond and complete the enclosed survey instrument and return it by July 28, 1995, using the pre-addressed stamped envelope provided. Also, please be assured that your responses will be kept confidential.

Your taking time to complete and return the survey is greatly appreciated. **Thank You!**

Sincerely,

Jay L. Smith
Graduate Student

Dr. James P. Key
Professor

APPENDIX B

QUESTIONNAIRE MAILED TO AGRICULTURAL TEACHER EDUCATORS NATIONWIDE

The kinds and degrees of professional competencies needed by agricultural education teachers have continued to increase tremendously over the last number of years. This study is being conducted to determine *your* perceptions of the present and the future (next 10 years) competency levels of agricultural education teachers.

I. Demographics

Instructions: Please check or respond to the following:

1. My age is _____ years:

2. My highest level of education completed and area of concentration is:

Degree	Area of Concentration/Major
( ) Bachelor's	_____
( ) Master's	_____
( ) Doctoral	_____
( ) Other	_____

3. My length of time in the education profession is _____ years:

4. My length of time in my current position is _____ years:

5. Have you been actively involved in the preparation of agricultural education teachers within the last 5 years? _____ Yes _____ No

(If ***Yes***, please complete the questionnaire and return. If ***No***, please stop here and return the questionnaire and **Thank You** for your cooperation.)

II. Professional Competencies

Instructions: Please respond to each of the following items by circling the appropriate number. The numbers represent the levels of competencies which **you** perceive will be needed by the public high school agricultural education teachers in the future.

Levels of Competency

1 = Minimal
2 = Below Average
3 = Average
4 = Above Average
5 = Highly Competent

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	Present Level (1995)	Future Level (2005)
A. Planning, Development and Evaluation of Local Programs		
...Plan and conduct a community survey	1 2 3 4 5	1 2 3 4 5
...Organize and work with an Advisory committee	1 2 3 4 5	1 2 3 4 5
...Develop short and long range goals and objectives	1 2 3 4 5	1 2 3 4 5
...Develop an annual teaching plan	1 2 3 4 5	1 2 3 4 5
...Evaluate local programs	1 2 3 4 5	1 2 3 4 5
B. Instructional Planning		
...Determine needs and interests of students	1 2 3 4 5	1 2 3 4 5
...Develop student performance objectives	1 2 3 4 5	1 2 3 4 5
...Plan and write daily teaching plans	1 2 3 4 5	1 2 3 4 5

Levels of Competency

1 =	Minimal	4 =	Above Average
2 =	Below Average	5 =	Highly Competent
3 =	Average		

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		Present Level (1995)	Future Level (2005)
C.	**Teaching Methods and Techniques**		
	...Introduce a lesson	1 2 3 4 5	1 2 3 4 5
	...Apply different methods and techniques of teaching	1 2 3 4 5	1 2 3 4 5
	...Motivate students in teaching/ learning process	1 2 3 4 5	1 2 3 4 5
	...Use appropriate audio-visual aids	1 2 3 4 5	1 2 3 4 5
	...Control student behavior by establishing good rapport	1 2 3 4 5	1 2 3 4 5
	...Use computer-assisted instruction	1 2 3 4 5	1 2 3 4 5
	...Apply team teaching techniques	1 2 3 4 5	1 2 3 4 5
	...Summarize a lesson	1 2 3 4 5	1 2 3 4 5
D.	**Instructional Evaluation**		
	...Establish criteria for student performance	1 2 3 4 5	1 2 3 4 5
	...Assess student performance of cognitive skills and abilities	1 2 3 4 5	1 2 3 4 5
	...Evaluate instructional activities	1 2 3 4 5	1 2 3 4 5

Levels of Competency

1 =	Minimal	4 =	Above Average
2 =	Below Average	5 =	Highly Competent
3 =	Average		

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		Present Level (1995)	**Future Level (2005)**
E.	**Departmental Management**		
	...Develop and implement a statement of departmental policy	1 2 3 4 5	1 2 3 4 5
	...Determine and budget instructional resource needs	1 2 3 4 5	1 2 3 4 5
	...Organize and maintain a filing system	1 2 3 4 5	1 2 3 4 5
	...Provide healthy and safe learning environment	1 2 3 4 5	1 2 3 4 5
	...Organize and manage classroom and lab facilities	1 2 3 4 5	1 2 3 4 5
F.	**Guidance**		
	...Develop and maintain liaison with school guidance personnel	1 2 3 4 5	1 2 3 4 5
	...Assess student's performance and make advisory recommendations	1 2 3 4 5	1 2 3 4 5
	...Provide information and assist students in securing employment or further education	1 2 3 4 5	1 2 3 4 5

Levels of Competency

1 =	Minimal	4 =	Above Average
2 =	Below Average	5 =	Highly Competent
3 =	Average		

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		Present Level (1995)	Future Level (2005)
G.	**School-Community Relations**		
	...Develop a plan for school-community relations	1 2 3 4 5	1 2 3 4 5
	...Publicize the agricultural education program through leaflets, newspapers, electronic media and public events	1 2 3 4 5	1 2 3 4 5
	...Maintain liaison with state and local education, community and employment agencies	1 2 3 4 5	1 2 3 4 5
H.	**National FFA Organization**		
	...Publicize and attract prospective members of FFA	1 2 3 4 5	1 2 3 4 5
	...Supervise students in the organization and planning of FFA activities	1 2 3 4 5	1 2 3 4 5
	...Assist students in financial planning and management	1 2 3 4 5	1 2 3 4 5
	...Train teams in shows and leadership contests	1 2 3 4 5	1 2 3 4 5
	...Evaluate the local FFA chapter	1 2 3 4 5	1 2 3 4 5

Levels of Competency

1 =	Minimal	4 =	Above Average
2 =	Below Average	5 =	Highly Competent
3 =	Average		

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		Present Level (1995)	Future Level (2005)
I.	**Adult Education Program**		
	...Plan an annual program of instruction for adults	1 2 3 4 5	1 2 3 4 5
	...Utilize specialists and resource persons in the adult education program	1 2 3 4 5	1 2 3 4 5
	...Organize demonstration, field-days and tours	1 2 3 4 5	1 2 3 4 5
J.	**Supervised Agricultural Experience Program (SAEP)**		
	...Plan and develop SAEP	1 2 3 4 5	1 2 3 4 5
	...Assist and supervise students in selecting and conducting SAEP	1 2 3 4 5	1 2 3 4 5
	...Assist students in developing comprehensive management skills	1 2 3 4 5	1 2 3 4 5
	...Prepare students to become involved in advanced technology development	1 2 3 4 5	1 2 3 4 5

Levels of Competency

1 =	Minimal	4 =	Above Average
2 =	Below Average	5 =	Highly Competent
3 =	Average		

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		Present Level (1995)	**Future Level (2005)**
K.	**Teacher Professionalism**		
	...Maintain a friendly, cooperative and helpful relationship with faculty and staff	1 2 3 4 5	1 2 3 4 5
	...Exhibit leadership by sharing knowledge and techniques with faculty	1 2 3 4 5	1 2 3 4 5
	...Demonstrate evidence of professional demeanor, scholarship and behavior	1 2 3 4 5	1 2 3 4 5
L.	**Agricultural and Technological Development**		
	Deliver instruction by emphasizing:		
	...International economy or global agric lture	1 2 3 4 5	1 2 3 4 5
	...Marketing, finance and trading skills	1 2 3 4 5	1 2 3 4 5
	...Biotechnology and genetic engineering (embryo transfers and genetic insertion)	1 2 3 4 5	1 2 3 4 5
	...International competition in food and fiber markets	1 2 3 4 5	1 2 3 4 5
	...Managerial skills	1 2 3 4 5	1 2 3 4 5
	...Information technology (fax and telecommunication)	1 2 3 4 5	1 2 3 4 5

III. General

1. Please name the one professional competency that you think is the ***most important*** for Secondary Agricultural Education Teachers to possess:

2. Please name the one professional competency that you think needs the ***most improvement*** by Secondary Agricultural Education Teachers:

3. Are there any *additional competencies* which you feel should be added to this list?

4. Additional Comments or Suggestions:

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Thank you for your cooperation with this project. We hope that as a result of your input, the field of Agricultural Education will be better prepared to meet the professional competency challenges of tomorrow!

APPENDIX C

COMMENTS OF THE RESPONDENTS

Good idea for study.

It's time Ag Ed stepped out of the dark ages and catch up to what is happening regarding global population, agriculture, technology, and environmental limits of our planet.

Interaction of economics, technology, social, and environmental issues must be considered in training present and future teachers of agricultural education.

The future competency statements are likely too conservative. Expect big changes over the next ten years including distance education and technology.

A large number of teachers are not teaching honesty and integrity. The name of the game has become "winning" at contests and stock shows. Teachers must be role models for their students and not teach them methods of winning through unlawful and deceptive practice.

Probably all of the competencies need increased levels today and in the future.

This study should produce very useful results.

Focus the Ag Ed curriculum. Do fewer things better. Take a closer look at the level of science in our Ag Ed curriculum and our pre-service program. How does Ag Ed fit into Colleges of Agriculture?

Good work. I look forward to the reporting of this research.

Our secondary instructors do not teach adult classes.

Hopefully we asked business/industry, community members, and boards of education these same questions.

Good survey.

Most of this questionnaire addressed Ag Ed as we've known it for 80 years. I feel that truly major changes will occur in the program in the next 10-15 years.

Scholarly application of the knowledge bases in leadership and management are needed greatly by secondary school Ag teachers.

Project your survey to better address anticipated changes in the industry and in technology.

Be more technically competent. You can't teach what you don't know.

What can we do to select the best candidates for teacher education in Ag?

I look forward to the results of this worthy project.

We have too many teachers who don't read, attend professional meetings, or who limit their attention to those things which are "hands-on." It's time we emphasize "brains-on" in Ag Ed.

The competencies reflect very traditional beliefs about the teaching/learning process. Where are the futuristic competencies?

The lack of questions and/or content concerning the physical sciences concerns me. Second, the service sector of our Ag industry will provide more opportunity than previous--this needs to be communicated ASAP.

People to sell agricultural opportunities.

We cannot afford to do business as usual. FFA contests cannot drive the curriculum and serve as the primary instruction activity. Moreover, we cannot showcase facilities that are in disarray, badly maintained and that have the appearance of agriculture as it was in the 40's, nor can we fail to update our curriculum. Our future is at stake. Colleges must require students to take contemporary courses and give them the skills and will to implement high quality programs in schools that are articulated closely with sciences, math, and other areas.

Do not abandon the strengths of secondary agricultural programs.

I am not sure this survey is getting at all that you are needing. It seems as though very traditional program aspects were examined which will always be vital to effective programming. Are there futuristic/visionary program components which need to be examined?

We need to see emphasis on science and on integration of academics and vocational education.

Instrument assures competencies of the Ag Ed program will be the same ones needed in 2005 as are practical in 1995.

The general areas of leadership must continue to be stressed in teacher education.

Our perception varies greatly from reality for many of these competencies.

Technological competencies in various agricultural specializations will become increasingly important.

This is an important topic. How to address the future rules is another.

We must add agriculture back into our programs. I see many secondary programs becoming nothing but leadership programs.

I feel something needs to be done to recognize vo-ed of all kinds at a similar level of important as college-prep. It will take more than money thrown at it. Maybe hard times or a depression.

What about keeping appropriate records and reports to insure sound operation of a cooperative work experience program?

Efforts by SDE's to plan for the teacher has taken away teacher motivation to learn how to successfully plan a program. Teachers need to be able to use SDE plans as a starting point for their local plans.

Most of our teachers do not want to move into the 21st century and provide more depth and technical (advanced) expertise in their instruction. They wish to continue teaching arc welding, showing/grooming, setting "points' on a "M" Farmall tractor, etc. Most do not have adult programs for joint teaching efforts with other areas.

Ask industry people what they think teachers need--not just teachers or teacher educators. We have too many narrow minded traditional thinkers within the ranks and leadership.

All you have listed are critical to success in teaching. But more important, is training our teachers to understand how humans learn and process information and providing sufficient practice so that they may develop a craft knowledge of teaching. In the future, I believe students of teaching should emphasize cognitive psychology and clinical practice should be expanded well beyond student teaching. Clinical practice should also be supervised by a true master teacher.

For the most part, the Ag Ed community should declare adult education programs D.O.A. Most are conducted on paper only. Also, in too many programs, Ag Ed is really an FFA program. Excellence in classroom and laboratory teaching of an activity based science/math---based curriculum is the only way Ag Ed programs will grow and prosper in the future. If we accept this as one mission Ag Ed will be supported because our goals are congruent with societal goals and with the goals of other educators. Any other route till lead to decline, not growth. Thus, professional educational competencies that enable these positive results are most important.

APPENDIX D

INSTITUTIONAL REVIEW BOARD

APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 06-29-95 **IRB#:** AG-96-001

Proposal Title: PROFESSIONAL COMPETENCIES NEEDED BY AGRICULTURAL EDUCATION TEACHERS AS PERCEIVED BY AGRICULTURAL TEACHER EDUCATORS

Principal Investigator(s): James P. Key, Jay L. Smith

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature: _____ Date: July 3, 1995
Chair of Institutional Review Board

VITA

Jay L. Smith

Candidate for the Degree of

Doctor of Education

Thesis: PROFESSIONAL COMPETENCIES NEEDED BY AGRICULTURAL EDUCATION TEACHERS AS PERCEIVED BY AGRICULTURAL TEACHER EDUCATORS

Major Field: Agricultural Education

Biographical:

Personal Data: Born in San Antonio, Texas, June 20, 1955, the son of Hershel and Lorraine Smith.

Education: Graduated from Robert E. Lee High School, San Antonio, Texas in May, 1973; received the Bachelor of Science degree from Texas A&M University in 1976, with a major in Animal Science, Production Option; received Master of Science degree from Oklahoma State University in December, 1993, with a major in Agricultural Education; completed requirements for the Doctor of Education degree from Oklahoma State University, Stillwater, Oklahoma in December, 1995.

Professional Experience: Supervisor, Hormel Meat Company, 1977-1979; Superintendent, L. R. Inscore Construction Company, 1980-1981; Service Engineer, B. J. Hughes, Inc., 1981-1986; Self-Employed, 1986-1987; Revenue Officer, Internal Revenue Service, 1987-1992; Substitute Teacher, 1992-1993; Graduate Teaching Assistant, Oklahoma State University, 1993-1994; Agricultural Education Teacher, Pleasanton, Kansas, 1994-Present.

Professional Organizations: Kansas Vocational Agriculture Teacher's Association; Kansas Vocational Association; Kansas National Education Association; National FFA Organization; National Vocational Agriculture Teacher's Association; Alpha Tau Alpha; Phi Delta Kappa; Gamma Sigma Delta.